The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

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MR. JAMES H. CROFTS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER.
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Miscellaneous, Insurance, Assurance, Telegraph, Shipping, Canal, Gas, Water, and Dock Shares.

BUSINESS negociated in Stocks and Shares not having a general market value.

BUSINESS in COLLIERY and IRON Shares, and in the principal WAGON and MANUFACTURING COMPANIES of the NORTH of ENGLAND and SCOTLAND.

BUSINESS in all the principal COTTON SPINNING Shares.

Mr. J. H. CROFTS, having now established CORRESPONDING AGENCIES in all the CHIEF TOWNS of the United Kingdom, is prepared to deal in the various LOCAL Stocks and Shares at close market prices.

ACCOUNTS OPENED FOR THE FORTNIGHTLY SETTLEMENT.

A Daily Price List, issued at 5 P.M., giving latest Quotations up to close of Market. Also, on the 1st of every month a List of all Securities currently dealt in upon the Mining and Stock Exchanges, with latest prices, current dividends, rate of interest yielded at market price, &c., and every Friday a general List containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—

		50 Parys Moun., 9s.
20 Aberllyn.	50 Glenroy, 18s. 6d.	20 Port Phillip, 11s. 3d.
75 Aberdaunant.	10 G Laxey, £18¼.	25 Rookhope, 16s. 6d.
25 Bodidris.	25 Hultafall, £3¾.	15 Richmond, £12 10s.
20 Cardiff & Swan, 16s.	100 Javali, 8s.	25 Roman Grav., £7¾.
50 Chapel House, £3 1s 3	25 Leadhills, £3⅝.	10 St. Harmon, 35s.
50 Chontales, 12s.	50 Llanrwst.	25 Tankerville, £3⅝.
20 Devon Con., £2¾.	50 New Quebrada.	15 Van, £20¾.
2 D'Eresby Mountain.	20 N. Zea. Kapan., 20s.	30 Van Consols, 9s.
10 D'Eresby Consols.	50 North Laxey, 3s.	20 W. Tankerville, 7s. 6d
25 East Van, £4.	100 Pandora.	40 ditto Preference, 20s.
25 Flagstaff, 17s. 6d.	75 Penstruthal, 6s.	5 W. Wye Valley, £2¾.
25 Glyn, 17s.	100 Pestarena, 4s. 9d.	10 Wye Valley, £1⅝.

⁂ SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS) ON DEPOSIT OF TWENTY PER CENT.

FOREIGN BONDS—ARGENTINE—EGYPTIAN—RUSSIAN, TURKISH, SPANISH, PERU. &c.
SPECIAL BUSINESS in the above, and Fortnighty Accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.

RAILWAYS—HOME AND FOREIGN.—SPECIAL BUSINESS in the above, and Fortnightly Accounts opened on receipt of the usual cover.
JAMES H CROFTS, 1, FINCH LANE, LONDON.

MISCELLANEOUS AND TRAMWAY SHARES.—SPECIAL BUSINESS in—

MISCELLANEOUS.	CHEMICAL.	TRAMWAYS.
Alhambra Palace.	Lawes.	Argentine.
Fore-street Warehouse.	Langdale.	Bristol.
Halcomb Sack.	Newcastle.	Edinburgh.
Positive Assurance,		Glasgow.
And other Shares.	TELEGRAPHS.	London.
AQUARIUM.	Direct.	North Metropolitan.
Brighton.	Globe.	Tramways Union.
Royal (Westminster).	Telegraph Construction	And others.
Yarmouth.	W. India and Panama.	

BUSINESS TRANSACTED in all MISCELLANEOUS SHARES (of whatever description) having LONDON or COUNTRY MARKET VALUES.
JAMES H. CROFTS, 1, FINCH LANE, LONDON.
Bankers: City Bank, London; South Cornwall Bank, St. Austell.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.
RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS,
Accounts opened for the Fortnightly Settlement.
A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

50 Aberdaunant, 7s.	10 East Van, £4.	25 New Quebrada, 33s 6d
40 Blue Tent, £2½.	30 Frontino, 43s.	70 Pandora, 11s. 6d.
100 Bodidris.	40 Flagstaff, 17s.	50 Parys Mount., 8s. 9d.
25 Colorado, £5⅛.	100 Glenroy.	100 Penstruthal, 5s. 9d.
75 Chontales, 10s. 6d.	10 Great Laxey, £18¾.	15 Richmond, £12 13s 9d
30 Chicago, 13s. 6d.	50 Hultafall.	50 Rookhope, 18s.
150 Cedar Creek, 5s. 6d.	100 Javali, 7s. 6d.	10 Tankerville, £3⅛.
20 Devon Cons., £2¾.	50 Kapanga, 19s. 6d.	10 Roman Grav., £7⅞.
50 Derwent, 25s.	20 Llanrwst.	5 Van, £21.
60 Don Pedro, 13s.	15 Leadhills, £3¼.	25 Wheal Grenville, £3¼
40 East Caradon, 10s.	50 Last Chance, 25s. 6d.	50 W. Godolphin, 18s 6d
25 Eberhardt, £6 18s. 9d.	10 Minera.	15 Wye Valley.
	40 Marke Valley, 17s.	

DEVONPORT AND TIVERTON BREWERY COMPANY.—Mr. BUMPUS can supply a limited number of these shares at £3 18s. 6d. each, for cash.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

WILLIAM HENRY BUMPUS, SWORN BROKER.
Offices: 44, Threadneedle Street, London, E.C.
BANKERS—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MR. THOMAS THOMPSON, JUN., STOCK BROKER,
1, PALMERSTON BUILDINGS, BISHOPSGATE STREET, LONDON, E.C.

Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.

Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends upon present prices.—Mr. THOMPSON's weekly Circular may be had on application.

MESSRS. W. REYNOLDS AND CO., STOCK AND SHARE DEALERS,
57, GRACECHURCH STREET, AND TALBOT COURT, LONDON, E.C.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C. (Established 21 Years),
can sell the following SHARES, at prices annexed:—

75 Aberdaunant.	20 Frontino, £2.	50 Port Phillip, 11s.
40 Bodidris, 25s.	30 Flagstaff, 18s. 6d.	15 Richmond, £12 12s 6d
30 Birdseye, 17s. 6d.	25 Glenroy, 14s.	40 Rookhope, 16s. 6d.
15 Blaen Caelan, £4 5s.	20 Gorsedd & Merl. £3¼	100 Rossa Grande, 2s. 3d.
00 Chontales, 11s. 3d.	15 Grogwinion, £3 7s. 6d	50 So. de Eresby, £1 7s 6
15 Chapel House, £3 5s.	25 Hingston, £⅛.	10 Roman Grav., £7⅝.
20 Colorado, £5 1s.	20 Hultafall, £3 6s. 3d.	10 Tankerville, £3 5s.
40 Court Grange, 20s.	25 Last Chance, £1 7s. 6d	40 Tyn-y-Fron.
60 Don Pedro, 12s. 6d.	20 Linares, £5¼.	5 Van, £20¾.
2 D'Eresby Con., £9.	50 Morfadu, 13s.	5 West Chiverton, £9¼.
2 D'Eresby Moun., £80.	40 N. Zea. Kapan., £1 1s.	20 W. Wye Vall., £2 11s.
20 East Van, £4 2s. 6d.	20 Pandora, 13s.	10 Wheal Grenville, £2¾
15 Eberhardt, £7.	30 Pateley Bridge, 21s.	25 W. Tankerville, 6s. 3d
50 Exchequer, 2s. 6d.	100 Pestarena, 8s.	100 Yorke Peninsula, 5s.
10 E. Caradon, 10s. (c. p.)	20 Plynlimmon, 3s. 6d.	

Shares bought and sold at net prices. Telegrams promptly attended to.
Specially Recommended for an early rise in price:—Gorsedd and Merllyn, Bodidris, Tyn-y-Fron, Hultafall, Pandora and D'Eresby Mountain.

INVESTMENTS IN HOME MINES.

After the long and serious depression in almost every branch of Trade, and especially so in Metals and Minerals, the time may now be considered at hand when a revival of the general business of the country will set in. A demand for Iron, Copper, Tin, and Lead will, without doubt, spring up, and at no distant period be the first to have a great rebound in price. Within the next week we may all hope for a satisfactory solution of affairs now before the Berlin Congress, after which activity in every branch of trade will, no doubt, prevail.

MESSRS. PETER WATSON AND CO.,
54, OLD BROAD STREET, LONDON, E.C.
BUSINESS in STOCKS and SHARES.
RAILWAYS, BANKS, DIVIDEND LEAD MINES, &c.
BANKERS: The ALLIANCE BANK (Limited).
A CIRCULAR published MONTHLY. Single copy, 6d.; annually, 5s.

MR. ALFRED E. COOKE, STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON, E.C.
ESTABLISHED 1853.

BUSINESS TRANSACTED at closest prices in all MINE SHARES, RAILWAYS, FOREIGN STOCKS, GAS, TELEGRAPH, TRAMWAY, and MISCELLANEOUS STOCK of every description,
SOUND INVESTMENTS and GOOD SPECULATIONS. Read the "INVESTORS' GAZETTE," issued last evening.
ALFRED E. COOKE.

SUBSCRIBE to the "INVESTORS' GAZETTE." Issued every FRIDAY AFTERNOON. 2s. 6d. per quarter; single number, three stamps.
ALFRED E. COOKE, STOCK AND SHARE DEALER,
76, OLD BROAD STREET, LONDON.
Established 1853.

MR. JAMES STOCKER, STOCKBROKER,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.
Mr. STOCKER Transacts Business in all Stock Exchange Securities.
[Established 1848.]

BUSINESS in the FOLLOWING SHARES:—

Aberdaunant, 7s. 6d.	Penstruthal, 6s. 6d.	Colorado, £5⅛.
Bodidris, 25s.	Parys Mountain, 8s. 6d.	Chontales, 10s.
Chapel House, £3.	Pateley Bridge, 17s. 6d.	Don Pedro, 12s. 6d.
D'Eresby Con.	Roman Grav., £7⅞.	Eberhardt, £7⅛.
Devon Consols, £2¾.	Rookhope, 17s. 3d.	Flagstaff, 18s.
East Van, £3 18s.	South D'Eresby, 27s. 6d	Frontino, 40s.
Grogwinion, £3¾.	St. Harmon, 35s.	Hultafall, £3⅛.
Glenroy, 17s. 6d.	Tankerville, £3¾.	Javali, 7s. 6d.
Great Laxey, £18 3s. 9d	Van, £20⅝.	Last Chance, 23s.
Glyn, 11s.	United Mexican.	N. Zealand Kap., 21s 6d
Leadhills, £3 10s.	Wye Valley, 31s. 6d.	Pestarena, 4s. 9d.
Llanrwst, 42s. 6d.	West Wye Valley, £2⅝.	Port Phillip, 11s. 6d.
Morfa Du, 12s. 6d.	West Chiverton.	Richmond, £12¼.
Pandora, 14s.	West Assheton, 23s.	

BANKERS: LONDON AND WESTMINSTER.

MR. T. E. W. THOMAS, SHARE BROKER,
3, GREAT WINCHESTER STREET BUILDINGS, E.C.
Established 1857.

The following are the latest prices at which business could be done. Where the difference between the buying and selling price is wide transactions may be effected at an intermediate price:—

	Buyers.	Sellers.		Buyers.	Sellers.
Aberdaunant	6s. 6d.	7s. 6d.	Leadhills	£ 3¼	£ 3½
Bodidris	£ 1⅛	£ 1⅜	Mellanear	3½	4
Colorado	5⅜	5⅝	New Quebrada	1⅝	1⅞
Chontales	10s.	12s.	New Zealand Kapanga	¾	1
Clementina	1¼	1⅜	North Laxey	2s.	3s.
D'Eresby Consols	8	10	Parys Mountain	7s.	8s.
Denbighshire	1¼	1½	Pateley Bridge	¾	1
Devon Great Consols	2¼	2½	Plynlimmon	2s 6d.	3s. 6d.
Don Pedro	11s.	13s.	Richmond	12½	12¾
Eberhardt	6¾	7	Roman Gravels	7½	8
East Caradon	7s. 6d.	10s.	Rookhope	15s.	17s.
East Van	3¼	3½	South Condurrow	11	11½
Flagstaff	17s.	19s.	Tyn-y-Fron	1¼	1½
Frontino	1¼	1⅞	Tankerville	3	3¼
Glenroy	14s.	16s.	Tincroft	9	10
Glyn	12s. 6d.	15s.	Van	20½	21
Gorsedd and Merllyn	3	3¼	West Chiverton	8	9
Grogwinion	3	3¼	West Godolphin (call pd)	¾	⅞
Great Laxey	17½	18½	West Tankerville	5s.	7s. 6d
Hingston	7s.	9s.	West Wye Valley	2¼	2½
Hultafall	3¼	3½	W. Grenville	2¾	3
Last Chance	1¼	1½	Wye Valley	1¼	1½
Ladywell	14s.	16s.	Yorke Peninsula	2s. 6d.	5s.

FERDINAND R KIRK, STOCKBROKER,
5, BIRCHIN LANE, E.C.

Has BUSINESS in—

20 Grogwinion, £3½.	20 Hultafall, £3⅝.	60 Clementina, £1⅛.
30 St. Harmon.	100 Pandora.	30 Chapel House, £3⅛.
10 Hudson Bay, £11.	25 D'Eresby Consols.	10 Roman Gravels, £7¾.
100 Positive Assurance.	50 Llanrwst.	50 W. Tankerville, £3⅛.

Bankers: London and Westminster, Lothbury.

MESSRS. JONES AND HOUSTON, 25, CROSBY HALL CHAMBERS, BISHOPSGATE STREET WITHIN, LONDON, E.C

At no juncture during a long experience was there a finer opportunity for investment in Lead Mining companies. The market price of shares is much below their intrinsic value, owing to the recent and long standing depression. Usually with mining investors they buy in a rapidly rising market, and as eagerly sell if the tide turns for a little—whereas the true policy is to purchase when prices are low, and hold until good times and high prices ensue. Those who now pursue such a course will eventually realise large profits.

The following SHARES FOR SALE, free of commission:—

25 Aberduanant, 7s. 6d.	20 East Van, £3 17s.	30 Pant-y-Mwyn, £3 15s.
50 Bodidris, £1 5s.	10 Flagstaff, 18s. 3d.	100 Parys Mount., 7s. 9d.
100 Central Van (off. wd.)	30 Frontino, £1 17s. 6d.	100 Penstruthal, 6s.
50 Chontales, 10s. 3d.	15 Glenroy, 15s. 9d.	10 White Cliff (off. wd.)
20 Chapel House, £3.	15 Grogwinion, £3 5s.	100 South Aurora, 4s.
15 Cardiff & Swan., 17s.	15 Gt. Laxey, £18.	10 Tankerville, £3 3s. 9d.
20 D'Eresby Con., £8¾.	20 Hultafall, £3 10s.	40 Tyn-y-Fron, £1 12s 6d
100 Don Pedro, 13s.	Last Chance, £1 7s. 6d	5 Wheal Newton, £3⅛.
10 Eberhardt, £7.	150 North Laxey, 2s. 9d.	

SPECIAL BUSINESS in Pant-y-Mwyn (Lead) Shares, as Buyers or Sellers. This mine is opening out beyond the most sanguine expectations (see agent's report in to-day's issue). The monthly returns of lead have been trebled within the last ten months; large profits are being realised; another dividend is about to be declared. Only 8794 shares of £2 each have been issued. The aggregate value of the lode can be estimated at £200 per annum. Enquiry courted.
Bankers: London and Provincial.

WILLIAM B. COBB, STOCK AND SHARE DEALER,
62, CORNHILL, LONDON, E.C.
Bankers: The Alliance Bank (Limited).

MR. JOHN B. REYNOLDS, STOCK AND SHARE DEALER,
70 AND 71, BISHOPSGATE STREET WITHIN, LONDON, E.C.
Established Twenty Years.
Bankers: London—City Bank.
Cornwall—Messrs. Tweedy, Williams, and Co., Redruth.

MESSRS. J. TAYLOR AND CO.,
MINING ENGINEERS AND INSPECTORS,
86, LONDON WALL, LONDON, E.C.,
Have Agents in England, Scotland, Wales, and on the Continent.

MR. TIMOTHY HUGHES,
MINING AGENT AND SHAREDEALER,
59, SEEL STREET, LIVERPOOL.
Reliable information given respecting Welsh and Manx Mines.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MR. ALFRED THOMAS,
MINING AGENT, AND STOCK AND SHARE DEALER.
10, COLEMAN STREET, LONDON, E.C.

"INVESTMENTS AND SPECULATIONS" for 1878,
Price Sixpence.

BUSINESS IN THE FOLLOWING MINE SHARES.

Intending Investors should apply to us for Shares in the following Mines:—

200 Aberdaunant.	80 Great Laxey.	80 South Cwmystwith.
350 Bodidris.	100 Grogwinion.	100 Saint Harmon.
100 Cambrian.	200 Hultafall.	110 Tankerville.
30 D'Eresby Consols.	220 Ladywell.	20 Tincroft.
3 D'Eresby Mountain.	100 Ditto Preference.	150 Tolgus Consols.
15 Dolcoath.	150 Leadhills.	40 Van.
200 East Chiverton.	200 Llanwrst.	30 West Chiverton.
100 East Craven Moor.	25 Minera.	86 West Craven Moor.
20 East Pool.	303 Pandora.	200 West Pateley Bridge.
50 East Van.	200 Pateley Bridge.	120 West Tankerville.
280 Glenroy.	105 Red Rock.	100 Ditto Preference.
100 Gorsedd and Merllyn.	100 Roman Gravels.	150 West Wye Valley.
120 Great Holway.	200 Rookhope.	100 Wye Valley.

THE LOWEST PRICES WILL BE FORWARDED UPON APPLICATION, OR OFFERS CAN BE MADE WHICH MAY LEAD TO BUSINESS.
Shareholders wishing to sell Shares in above should forward us their instructions.

GOULD SHARP AND CO., STOCK AND SHARE BROKERS,
42, POULTRY, LONDON, E.C.—ESTABLISHED 1852.
Bankers: London and Westminster, Lothbury, London, E.C.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

ABBOTT AND CO.,
STOCK AND SHARE DEALERS,
12, UNION COURT, OLD BROAD STREET, E.C.

MR. E. J. BARTLETT, STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.
SPECIAL BUSINESS at close prices in East Lovell, East Van, D'Eresby Mountain, Chapel House Colliery, Great Laxey, Minera, Richmond, Bodidris, South Condurrow, South Caradon, West Chiverton, West Tolgus, Blaen Caelan, Gawton, Llanrwst, and Wheal Peevor shares.

WILLIAM GABBOTT, STOCK AND SHARE DEALER,
8, DRAPER'S GARDENS, THROGMORTON STREET, LONDON, E.C.

MESSRS ENDEAN AND CO., 85, GRACECHURCH STREET
LONDON, E.C., STOCK AND SHARE DEALERS.
Established in 1861.
Bankers: Barclay, Bevan, and Co., and London and Westminster Bank, Lothbury.

English and Foreign Stocks and Shares and all other Securities dealt in for cash or account.

Messrs. ENDEAN and Co. have SPECIAL BUSINESS in the undermentioned—

175 Aberdaunant.	110 North Laxey.	40 Chontales, 11s. 3d.
75 Bodidris, £1¼.	25 Pandora.	25 Don Pedro, 12s.
5 D'Eresby Mountain.	15 Parys Mount., 9s.	45 Eberhardt, £7¼.
25 D'Eresby Consols.	20 Pateley Bridge, £⅞.	100 Flagstaff, 15s.
50 Devon Consols, £2¾.	75 Penstruthal.	20 Frontino, £2.
35 East Van, £4.	25 Roman Gravels, £7¾.	35 Hultafall, £3⅝.
20 Grogwinion, £3¼.	30 Rookhope, 18s.	20 Javali.
30 Glenroy.	60 South de Eresby.	75 Last Chance, £1¼.
15 Great Laxey, £18.	10 Tankerville, £3¼.	20 N. Zeald. Kap., £⅞.
45 Leadhills, £3½.	15 Wheal Grenville, £3¾	45 Port Phillip, 10s.
60 Llanrwst.	25 Chicago.	50 Richmond, £12½.

THE LLANRWST MINING DISTRICT.—The LLANRWST MINE is the PRINCIPAL one of this DISTRICT. It is fully equipped with every modern appliance for economical working on the most extensive scale.

The lodes are prolific, and the monthly sales of lead are large and increasing, exceeding that of the whole of the other mines in this district put together.

Having our own agents in this district, we are in a position to afford investors the latest and most reliable information respecting Llanrwst, D'Eresby Mountain, D'Eresby Consols, and South de Eresby Mountain Mines.

Apply to ENDEAN and Co., 85, Gracechurch-street, London, E.C.

MESSRS. EKINS AND CO., STOCK AND SHARE DEALERS,
14, QUEEN VICTORIA STREET, MANSION HOUSE, LONDON.
Bankers: Metropolitan.

SOUTH DE ERESBY MOUNTAIN MINE.

Large numbers of shares in this mine have been absorbed, and with every fresh discovery they will undoubtedly rise in price. The Gorse lode runs direct through the South de Eresby Mountain Mine, and there intersects the Great Penralt and Cwm Lanarch lodes. South de Eresby Mountain Mine is consequently the most valuable sett in the district. Capt. Bennetts' reports, which have appeared in the Journal from time to time, have not been too sanguine.

The well-known mining engineer, Mr. Jehu Hitchins, one of the greatest authorities of the day, speaking of South de Eresby Mountain Mine, observes—"I am fully persuaded the lodes of the d'Eresby Consols and d'Eresby Mountain Mines run into and through your sett. * * * I regard this property as presenting a field for mining operations of more that ordinary character."

For shares in this company apply to Messrs. EKINS and Co., 14, Queen Victoria-street, London, E.C.

THE ADVERTISER, who has recently returned from the ROCKY MOUNTAINS (NEVADA), is desirous of obtaining the ASSISTANCE of TWO or THREE GENTLEMEN, in order to RAISE a SMALL CAPITAL to DEFRAY the EXPENSES of a PROSPECTING PARTY. Several localities in the Rocky Mountains have been discovered by the Advertiser, which abound in rich Gold Quartz and Silver-bearing Lodes, specimens of which can be produced.

Apply to "M. J. G.," Derby Hotel, 16, Castle-street, Douglas, Isle of Man.

WANTED, MACHINE FOR DRESSING LEAD ORE to dress from 100 tons to 200 tons per month.
Address, stating full particulars and price, to Mr. W. H. WATSON, Secretary, Peak Forest Mining Company, 71, Fargate, Sheffield.

GLAMORGANSHIRE.

WANTED, a PARTNER in a BITUMINOUS COAL COLLIERY, situate within three miles of a shipping port, and one and a half mile of the Great Western Railway.
For further particulars apply to Mr. DAVID THOMAS, Mining Engineer and Estate Agent, Great Western Chambers, Neath.

EAST CHIVERTON SILVER-LEAD MINE.—FOR SALE, 10 SHARES, at 32s 6d. each
10 PLYNLIMMON LEAD MINE SHARES, at 2s. 6d. each.
2 PANDORA LEAD MINE SHARES, at 10s. each.
10 SOUTH TOLCARNE SHARES, at 2s. 6d. each.
20 SOUTH ROMAN GRAVELS LEAD MINE SHARES, at 2s. 6d. each.

WANTED—Parys Mountain Shares. Sellers will please state number and lowest price for cash. Business done through a respectable broker
Address, "Mars," MINING JOURNAL Office, 26, Fleet street, London, E.C.

FOR SALE (the whole or part), and for which no reasonable offer will be refused:—

100 New Bronfloyd.	100 Bettws-y-Coed.*	50 Hultafall.
150 Court Grange.	5 Clementina.	20 Hornachos.
50 Blaen Caelan	30 Gorsedd and Merllyn.	10 Aberllyn.
3 D'Eresby Mountain.	100 Pandora.	20 Temple.*
10 D'Eresby Consols.	100 Parys Mountain.	100 Tyn y Fron.*

* Strongly recommended for a certain rise.

Address, H. WILKINS, 3, Heybourne Villas, Tottenham, N.

P.S.—Information given upon the Welsh Mines from actual inspection (Llanrwst district included).

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES—No. LXXXI.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,
Mining Engineer, Wakefield.
(Formerly Student at the Royal Bergakademie, Clausthal).

SECTION V.

Much more usual than the employment of struts alone is that of long vertical wall pieces, or stringing pieces, which extend over six or seven different frames. These string pieces vary from 6 to 12 yards in length, and are formed of 6 or 8 in. timbers. They are laid close against the wall plates, sometimes only in that part of the shaft which forms the partition between the winding and travelling shaft; more generally, however, they are placed also against the wall pieces near the corners of the shaft. Where round wood is used for the timbering, the side of the stringing beam next the wall piece is hollowed out slightly at suitable distances, so as to fit the round surfaces of the wall plates. With this arrangement the stringing beams act as clamps, holding the wall pieces at a proper distance apart. The stringing beams situated at that portion of the shaft which forms the partition are strutted apart (in a vertical shaft) by means of the horizontal cross bearers, which are often fitted into the stringing beam by means of an ordinary notch on one of the stringing beams, and a mortice on the other, into which a tenon on one end of the cross bearer fits; the opposite end of the bearer being first footed, or inserted, in the notch, the tenon at the other end being then driven down into the mortice in the opposite stringing beam. The mortice for this purpose must be continued upwards at a curve, having the opposite end of the cross bearer as centre. The position of the notch and mortice alternate, first on one side of the shaft and then on the other. It is usual, in addition to the horizontal cross bearers, to strut one of the stringing beams against the other by means of inclined struts, which, where it is expected that the pressure will occasion the sinking of the hanging wall, are inclined upwards from the lying to the hanging side; where it is expected that the pressure will cause the lying wall to sink, they are inclined from the hanging wall upwards towards the lying wall, and not seldom are they placed inclined alternately first in the one direction and then in the other. The side string beams (those placed next to the stout sides of the shaft) are strutted apart, not by cross bearers, but by inclined struts, that like the above may all be inclined in one direction or the other, or they may be inclined first in one direction and then in the other.

The stringing beams are sometimes supported by placing the end of one on the top of the next underlying one, the support of the beams being then essentially due to the friction between them and the rest of the timbering. Where they are hollowed out to fit the wall pieces the latter support the stringing beams, which are thus indirectly carried by the bearing cribs, or stempels, of the ordinary framing. It is more usual, however, and much better, to support the stringing beams from special bearing stempels, purposely inserted into the walls of the shaft, the stringing beams being footed at both ends in notches formed on the upper and under sides of the stempels; the stempels themselves being fixed, as usual, in Buhnloch and Anfall in the walls, the position of these alternating first on one side and then on the other side, or wall, of the shaft. The timbering between the two bearing stempels (a bearing stempel, two corresponding stringing beams, and the cross bars and struts between the stringing beams) constitute a set of timbering called a "band," or "trace."

In inclined shafts the struts from the hanging to the lying wall are inclined, but slightly upwards, in this direction, and are called "breast" stempels, to distinguish them from those inclined in the opposite direction, called "bed" stempels. The bearing stempel carrying the stringing beams (or rather the stringing beam on the lying side) is inserted in a stempel notch in the lying wall of the shaft, the opposite end being inserted in a horizontal notch in the stringing beam on the hanging side. The end of the bearing stempel is first inserted in the stempel notch in the lying wall, and the opposite end is raised upwards, and inserted in the notch in the stringing beam on the hanging side, which must for this purpose be suspended or supported about 1 ft. above its ultimate position. When the Anfall end of the stempel is thus inserted this and the string beam are carefully lowered into position, and driven tight down. The inclination of the stempel after this must still be such that any tendancy of the stringing beam and hanging wall to sink will only result in wedging the stringing beam tighter in position. The stringing beam on the lying side of the shaft is footed in a notch cut on the upper side of the bearing stempel.

OPEN CUT TIMBERING.—This description of timbering consists not of frames but single pieces, and is suitable principally for blind shafts. It may be made of round or sawn timber. In the first case, when round timber is used, each piece is hollowed out on the upper side near the ends, to suit the curve of the timber. The separate pieces, from 4 to 6 in. square, are then laid upon each other, in exactly the same manner as that we have descrioed in speaking of the use of box timbering for supporting the roof of the Barnsley bed in the South Yorkshire mines—viz., two of these pieces which will form the bearing stempels are inserted in solid ground parallel to each other, and at a distance apart determined by the size of the shaft. These stempels are laid with the notched side turned upwards. Upon these, and at right angles to them, are laid two other stempels which, as they are not intended to project into the ground, are slightly less in length than the width of the shaft. These two stempels fit in the notches cut in the upper side of the bearing stempels, and are likewise notched on their sides. On these last, and at right angles to them, and therefore parallel to and vertically above the first two (the bearing) stempels a third pair are laid in the notches formed on the upper side of the second pair. The third pair are likewise notched on the upper side. In this manner, by laying one pair upon and at right angles to the last pair, the shaft is built up to the under side of the next bearing stempel. The notch is seldom deeper than one-third the thickness of the stempel, usually only one-fourth. The depth of the notch should never exceed one-half the thickness of the timber, since with this depth the pieces on the same side touch each other, and the timbering is then throughout solid, forming one description or modification of the solid crib timbering to be next described. A very suitable plan, where it is desirable to have the timber to fit everywhere tight, is to notch the timber on both sides to one-fourth the thickness, and so laid that one piece of timber rests with the notch on the under side in or upon the notch on the upper side of the next underlying piece, which is at right angles to it. This arrangement will then form on all sides a solid lining.

A perfectly natural transition from this description of timbering (prop cut timbering), in the case of excessive side pressure, combined with a loose, or even quick, nature of the ground, which necessitates that the frames shall be placed closer together, brings us to the next description of timbering, which we shall call crib timbering, or solid framing or cribbing, in which the rectangular cribs are laid close upon each other, so that the use of props is dispensed with entirely.

The manner in which solid crib timbering is inserted in a shaft will depend pretty much upon the nature of the ground. Where an excessive pressure is expected, and at the same time the ground is of such a loose nature that it will not stand for any length of time, it may be necessary to sink the shaft for a length with temporary timbering, and then to build up the solid cutting, removing the temporary timbering at the same time. Where the ground, though loose, will stand for some short time without support, it may only be necessary to make the lengths of the timbering shorter. As the whole of the face of the ground is covered by the solid cribbing the driving in of covering piles becomes unnecessary.

On the nature of the ground will depend the possibility of inserting bearing frames or stempels. In the most difficult case, where the ground is so loose that it offers only an insufficient support for the bearing crib (which has the very considerable weight of the solid cribbing to carry), it will be neccessary to sink through the whole of the loose ground by means of temporary timbering (which may be strengthened by wedging at given intervals some of the prominent cribs against the temporary lining); and first, when ground of sufficient strength is reached, to lay two or more bearing cribs upon each other, the ends of which will project some considerable distance into the solid ground, and upon these to build up the solid cribbing against the portion of the lining last inserted, the temporary lining being removed at the same time; the space between the solid cribbing and the sides of the shaft being well filled with attle packing, or soil as the case may be; in order to make the work as satisfactory as possible, the packing is sometimes rammed down into position.

Not only with regard to the bearing cribs, but also with the ordinary frames, we have the same modifications and variety of joints for the timbering; the wall pieces sometimes resting upon the short side pieces; the joints being made by cutting the pieces at the ends to half their thickness, and scarfing them together. With respect to the ordinary frames, the pieces may be connected by horizontal or vertical scarfing (see Lecture 78); or the ends of some of the timbers may be simply notched to suit the round surface of the other timbers, the ends of which will then be cut square off. Where the joints are connected by horizontal scarfing the pieces are less likely to be forced out of position, the cribs being much more rigid. The use of a notch joint is chiefly advisable in such a case, where the shaft is sunk on a lode the matrix of which is very compact and solid, whilst the hanging and lying walls are of an untrustworthy character, and likely to exercise a considerable pressure over the walls; in this case the short side pieces are notched to fit the round surface of the wall pieces. The use of a vertical joint is advisable chiefly where there is a pretty strong uniform pressure from all sides, though even then for the joining of the pieces forming the cribs horizontal scarfing is to be preferred. For ordinary cases, where some pressure may be expected from all sides, though principally from the longer sides or walls, a combination in which horizontal scarfing and cylindrical notching of the ends of the side pieces altenate is extremely suitable.

This kind of timbering, where square sawn timber is used, will then be jointed by a kind of horizontal notched scarfing, and where the notch is made on both sides to one-fourth the thickness of the timbering will form a very solid and secure lining even for shafts of somewhat large dimensions. The expenditure of timber by this method, however, makes its use, and that of solid cut timbering (to be immediately described) advisable only in the case of small narrow shafts.

Solid crib timbering is strengthened similarly to the prop crib timbering—by means of cross bearers, horizontal and inclined struts and stringing beams.

The use of strong bearers for forming the partition between two portions of a shaft is advisable in the case of excessive pressure from the longer sides. These may be inserted close upon one another, like the frames, so that each frame receives a cross bearer; or the horizontal surfaces or joints of the cross bearers may be made to break joints with the horizontal surfaces of the frame. To prevent any liability of the cross bearers (which, according to this arrangement, form a tight solid partition between the two compartments of the shaft) from being knocked out sideways the cross bearers are about 2 in. longer than the distance between the inside of the wall pieces, the latter having each a notch about 1 in deep and of the exact breadth of the cross bearers, which are driven tight down into the notches. In some cases it might be found sufficient to insert a cross bearer only every fourth or fifth crib, and to connect them with covering laths nailed on both sides. This arrangement, however, has the disadvantage that whilst some of the crib frames have a much greater strength than is necessary, others have not sufficient strength where the ground is loose and the pressure great. Besides, there is comparatively little support against a motion of one of the walls with respect to the other. This latter is remedied by means of straps inclined in a suitable direction, as we have pointed out in the case of prop cribbing. The former disadvantage can be got over by the use of stringing pieces, between which the horizontal cross bearers are driven, or a combination of cross bearers with inclined struts.

One of the simplest examples of such a kind of solid cribbing consists of the ordinary solid cribbing laid upon a bearing crib or set of bearing stempels, which latter will most usually be fixed between the hanging and lying walls, and will have a bearing stempel or stempels laid across the shaft in the line of the partition of the shaft. Upon these bearing stempels the stringing beams will be placed upright close against the wall pieces, and they are then strutted apart by means of struts inclined first in one direction and then in the other, the lower end of one abutting against the upper end of next lower strut. In some cases the strength of this arrangement is still further increased by means of an horizontal cross bearer between each pair of inclined struts. Both sides of the partition should be lagged with covering laths, placed so that the horizontal joints of the laths shall not all come to be in one line.

In the case where the matrix of the lode is very compact, but where the walls are of an untrustworthy character the side pieces of the crib or frames may be dispensed with, and in their place at each side two stringing beams placed close against the wall pieces, which are laid solidly upon each other; the stringing beams being strutted apart by means of a combination of horizontal and inclined struts. In order to prevent any loose portions of the lode from falling into the shaft, the back of these struts are lagged with covering wood; this arrangement, as is evident, effects a great saving of timber.

In some of the Silesian mines, where shafts are timbered with prop cribbing as above described, that arrangement is changed into solid cribbing in passing through loose, rolling, or quick ground, the wall pieces being laid upon the side pieces, the joints being the ordinary horizontal shaft scarfing; the partitions dividing the shaft into three compartments, being formed by placing stringing beams against the wall pieces, and holding them apart by driving horizontal cross bearers close upon each other, making the partition perfectly tight, the corners of the two larger compartments being covered by nailing long stringing planks on the wall pieces and cross bearers close against the corners, as above described.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

MIDLAND INSTITUTE OF MINING, CIVIL, AND MECHANICAL ENGINEERS.

IMPORTANT EXPERIMENTS WITH SAFETY-LAMPS.

The annual meeting of the Institute was held in the new rooms of the Institute, at Barnsley, when there was a good attendance of members. The chair was occupied by Mr. Embleton, the retiring President, who conducted many valuable experiments, and gave some important information on the proper mode of testing safety-lamps prior to their being used by the workmen. For the purpose of testing the lamps an india-rubber tube was fixed to a gas pipe, and the lamp was then placed in a circle of perforated gas piping, and was tested by the gas. A number of lamps in actual use at various collieries were tested, and none of those which were found imperfect stood the test more than 20 seconds before they fired. The lamps were carefully examined, and two were declared imperfect, but the alleged imperfection of one of these was shown by the President to be really no defect, and that the lamp, had it been perfect in other respects, was safe, and might have been used in a mine. The real imperfection of the lamp, which several members were at a loss to find, was afterwards shown by Mr. Embleton. On being put to the test it fired, as did also others which were thought to be good lamps. A lamp in regular use at the Blantyre Colliery, the scene of a recent explosion, was tested, and fired in the interior of the lamp rather quickly. A lamp in use at the Strafford Collieries, near Barnsley, was put to the test, and the lamp was at once extinguished, proving the lamp to be safe.

Several members who witnessed the experiments, including Messrs. Miller, Strafford Collieries, James Wilson, the Oaks, and James Beaumont, Monckton Main, expressed themselves in unqualified terms of the knowledge they had gained, and it was stated that the experiments were amongst the most important which had yet taken place in connection with mining operations. The President remarked that in his opinion the explosion at the Haydock Colliery, which was worked with safety-lamps, was the result of a defective lamp, and the experiments then made showed how exceedingly difficult it was to detect a defective lamp. It was pointed out that a similar system of testing the lamps was in operation at the Rothwell Haigh Colliery, near Wakefield, and if this could be more extensively adopted no defective lamp could then pass into the workings, and in all probability many of the large and disastrous explosions which now take place would be unknown. The hints thrown out will no doubt be acted upon, as the experiments were viewed with great interest, and were admitted by all present to be very valuable.

The members then proceeded to the election of officers for the ensuing year. Mr. Richard Carter, Barnsley, was elected president, and Messrs. Bruton, Mitchell, and Pearce vice-presidents. The following members were elected on the council for the ensuing year:—Messrs. Bailey, Beaumont, Chambers, Kell, Wilson, Thompson, Miller, and Hodgson. A vote of thanks was awarded to the late president for his services during the past three years. The report was read by the secretary, Mr. W. H. Peacock, who was unanimously re-elected. This document showed there were 14 honorary members, seven life members, and 240 ordinary members.

COMPRESSED AIR IN MINES—No. I.

By M. G. JOHNSON,* of the Kingswood Collieries, Bristol.

Ever since the curse was pronounced upon Adam—"By the sweat of thy face, shalt thou eat bread"—man has more or less in different ages striven to reduce that curse to its minimum. As this was supposed to have been uttered somewhere on the banks of the River Euphrates, my experience of that part of the world is that very little physical exertion indeed is required to produce the sweat of the face, the very act of eating being generally sufficient to effect that result. The passage, however, I think, would be better understood if rendered—"By labour man shall earn his bread or his living."

The small boy who, being engaged to "handwork" the pumping-engine, and preferring the noble game of marbles, invented a method by which the engine did his part of the work, and which ultimately led up to the "tappet motion," thus making the engine self-acting; and it is a notorious fact that oftimes the schemes resorted to by lazy men have been the germ or starting point of many a grand and brilliant invention.

The tilling of the ground by Cain I have no doubt was hard manual labour, and rather different from the steam ploughing of the present day, and it would be exceedingly interesting to compare the ploughs and agricultural implements of Tubal Cain with those of Ransome and Sims, or Fowler and Sons, of Leeds; and we cannot fail to observe how has been the growth in the application of mechanical power to supersede manual and animal power in agriculture, the first and really the most important industry. It may be, however, as some have supposed, that the antidiluvians attained to a very high pitch of perfection in the mechanical art, but that I think must be mere conjecture.

Let us see, then, what progress has been made in this respect in mining. Other than the application of steam to the winding in the shaft, I venture to say that very little real progress has been made, and this is not so much from any lack of inventions for means of doing the laborious part of the work underground, as from the determined opposition offered by the workmen themselves; they seem to fancy that any invention means in some way or other a reduction of wages, or that so many men are to be thrown out of work. Again, the peculiar nature of underground operations renders it very difficult for inventors, especially when they are unacquainted with mining, to get their machines partly tried and tested—as for instance, coal-cutting machines, hydraulic wedges, &c., but these prejudices, no doubt, will be got over in time as education advances.

The march of invention and improvement is imperative and inevitable. They say the largest room in the world is the room for improvement. This march will move steadily on until the end of time, and in this great drama we have each our part to play. The engineer has his part, and one of vast importance it is too—he has the motors and powers to deal with; the work of the sun, the tides, water, air and electricity to be stored, concentrated, and transmitted. There are grand things in store for the last two, which, when developed, will astonish mankind, but the grandest of all that we know is electricity, but that is in its infancy, and of which the wisest of us know very little.

The transmission of power is a subject of the deepest interest to the mining engineer, and never, I presume, has it engaged so much thought and attention as at the present time, and that for the simple reason there never was an easy, simple, and inexpensive method more needed or required. The methods usually employed are—

I.—STEAM.
II.—WATER.
III.—WIRE ROPES.
IV.—COMPRESSED AIR.

STEAM.—I will be one of the last to admit but that steam has and is doing good service underground, but it is extremely limited in its powers of application. Where all circumstances are favourable I believe it is the cheapest and most efficient power you can employ. If, for instance, you have a dry shallow shaft, and the coal giving off no explosive gas, say from 80 to 90 yards deep, and can carry your steam pipes down the upcast shaft, and you wish to apply your power near the bottom, so that your exhaust may be carried back through the same shaft, or be condensed near the engine, this may be considered a fairly favourable circumstance; but even here you may be subject at any time to the blowing of a joint in the steam pipes, and if the exhaust had been thrown into the shaft it would be rather a warm shop for anyone to go to repair the said joint. If, again, in a non-fiery mine you can conveniently fix your engines near the upcast to do the work required, and if you should be fortunate enough to get good, strong, and dry ground, in which you could cut out your boiler room without having a long smoke drift, this I should put down as a favourable circumstance, and where you may be justified in using steam power. The heat from the boiler furnaces would augment your considerable ventilation, and the exhaust steam, too, into your smoke drift would still help to increase the same. Under these circumstances, miners, the good ground steam has been applied at our deep pit at Kingwood. At Speedwell Pit we are very differently situated. Our winding shaft, which is the downcast, is 500 yards deep; from the bottom of this shaft a branch or stone drift is driven out to the south in the direction of the dip to undercut the seams. At 311 yards in this branch we struck the 2 ft. seam, and this is the point where we wish to fix our engines. Our upcast is sunk down to the same seam, but at nearly 600 yards away to the rise from the point where we struck the seam in the branch. You will, perhaps, better understand the position by looking at the diagram. A is the downcast; B is the upcast; C is the level, stone drift, driven from the bottom to undercut the seam, marked D. You will observe that the upcast, B, is sunk to the seam, D.

Now, as the great bulk of the coal to be won in the estate lies away to the dip, running at about 1 in 4 for 1½ mile, and reaching down to the River Avon at Crews Hole, and as we had already determined to make this 2 ft. seam the basis of our operations (the reasons for which I will explain when I come to deal with our proposed method of working), the point in the branch where the seam was struck was selected for fixing the main hauling engines. You will bear in mind that this point is 500 yards beneath the surface, and it is a simple matter of calculation to ascertain what depth the seam would be from the surface, dipping as it does 9 in. to the yard, or 1 in 4, for a distance on the surface of 1½ mile. Assuming the surface to be level, you will find that a shaft would have to be sunk 1160 yards, or 3480 ft.; this would be more than 14 times the depth from the Suspension Bridge at Clifton to the river beneath.

* Read at the Bristol Mining School.

may imagine, to sink a shaft to that depth and to fit up the requisite machinery and paraphernalia you are all accustomed to see, and which is requisite about a well-arranged pit bank, and mark! that to do a given quantity per day, your winding gear must increase proportionately with the depth, to say nothing of the surface arrangements, the position of the shaft in relation to existing railways, canals, or roads, would be a work of considerable time and enormous expense. You will, therefore, see that to lay out the plans for the development of this important estate was a matter of no small moment, and you may take this as an important anxiom, that the success or non-success of a colliery depends at a great measure on the manner in which it is set out, and it most frequently happens that the reason why one colliery pays, and another colliery in the same district, working the same seams, existing under just precisely the same conditions, does not pay, is that the paying one has some well arranged system for underground transit, and the other has not. There was another important matter, too, to consider, as I have already told you. Our working shaft in the downcast is but 9 ft. in diameter, and at 700 ft. from the surface the bulk of our water is met with. Now, a couple of years ago we fixed a Tangye's pump in the side of the shaft at this point, and carried the steam down from surface, the pipes being well covered by a non-conducting material, with an outer casing of sheet-iron, so that this difficulty, under all circumstances objectionable in a downcast, was got over fairly well, but with a loss in condensation of from 15 to 20 lbs. pressure. There was the difficulty of carrying off the exhaust steam, for at this level we had no communication with the upcast; various condensors were, however, tried, patent and otherwise, but none succeeded so well as one improvised by ourselves, and that was far from being satisfactory, for the condensation in proportion of steam and water cylinders was so great, consequent upon the great height of lift, that the water in the rising main was so heated that at its delivery at the surface the temperature reached 100° Fahr., and high temperature in such a small shaft had a very prejudicial effect on the ventilation, and upon the bucket leathers of the pump. At the best it was but a makeshift, so that in considering what power should be employed for the underground haulage, this pumping question had to be taken into account. Apart from the pumping, however, steam was first thought of for the haulage, and in working out this problem I had the good fortune to have the able and valued assistance of Mr. Cossham. We looked at the different and varied ways in which steam could possibly be applied, as follows:—

I.—To fix our hauling engines on the surface and convey the ropes down the shaft, and pass it around pulleys at the bottom, and then in and along the branch to the top of incline brow. Our objection to this method was that we had already two years' experience of this at Deep Pit. In the first place, for working the incline of 600 yards necessitated 1200 yards of rope—*i.e.*, 500 yards down the shaft, and 100 yards in a branch, being so much superfluous length and weight. Occasionally the empty wagons would get off the rails, and before they got the signal to stop there would be a dangerous accumulation of slack rope dangling about in the shaft, the weight of rope hanging vertically in the shaft kept the coils tightly on the drum, so that he would not detect the mishap. To prevent the rope getting out into the shaft it was enclosed in wooden piping, but this did not mend matters, for when the rope broke, as it did sometimes, one end would be frequently up this piping, and it involved a considerable amount of delay in getting it out ready for splicing. At other times a few wires would break, and stick out and catch in the wood, and either stick up or tear the woodwork away. Another objection, too, was that the rope, made of high-class steel, what is known as the patent plough steel, was constantly subject to the action of water in the dripping of the pit—in fact, the 500 yards in the shaft, and which had to sustain the greatest tension, was never dry, consequently the corrosion was very rapid, and unfortunately the higher the class of steel the more rapidly is the oxidation.

II.—To convey steam down the shaft and along the branch in pipes to the engine at the incline top. Our experience with the pump in the shaft I have already described was sufficient to decide against this plan.

III.—To drive a stone heading up from north or rise side of our winding shaft to the bottom of the upcast, and there fix our boilers and engine, and lead the rope along the branch or rollers.

IV.—To carry out the last idea with the exception of fixing the engine there, and instead of leading rope along the branch to carry the steam in pipes along the branch, and fix the engine at incline top.

III. and IV. would be preferable to either I. or II., but either of them we were convinced would be very costly, and at the same time ineffectual. Then there was another method—*i.e.*, to drive up on the 2-ft. seam to the bottom of the upcast, find a smoke drift, and fix the boilers as near as possible to the incline top. This, looking more feasible than either of the other methods, we went carefully into the cost, and it worked out something like the following:—

600 yards to drive rise heading on the 2 ft. seam, ripping top, &c., at 20s. per yard	£ 600	0	0
The coal gotten would probably pay for the haulage, neither have I reckoned for rails, reels, windlasses.			
Arching when finished should be 4 ft. 6 in. by 4 ft. 6 in.—that is, 4 ft. 6 in. wide, and 4 ft. 6 in. from floor to crown. This would take—			
250,000 common bricks, at 22s.	275	0	0
20,000 fire bricks, at 55s....	55	0	0
Mortar, about 2s 6d. per yard...	75	0	0
Getting materials up drift, arching, and packing	600	0	0
Getting materials into works	30	0	0
Making room for 2 boilers, 630 c. yards, at 3s. 4d.	105	0	0
Three walls, allowing for breakages, 41,000 bricks, at 22s.	45	2	0
Mortar	8	0	0
Masons building about 90 perches, at 2s. 6d. ...	11	5	0
Timber baulks	20	0	0
Materials conveyed to works	5	0	0
Extra cost getting boilers underground as compared with setting on surface, 25*l.* each	50	0	0
Incidentals	20	13	0
Total	£1900	0	0

To this amount I must add the cost of ventilating the drift whilst it was being driven, and all this sum would have to be spent extra and above what it would cost for fixing the boilers on the surface; and again, 600 yards of smoke drift driven through the seam, although encased with three or four widths of brickwork, and packed dry with well burnt ashes, is not without its dangers. The drying up of a wet muddy joint in the strata, or at the crossing of one of the many faults we meet with, may cause a collapse in the flue, perhaps at some remote point difficult of access, and would suddenly bring all your machinery to a standstill, and may cause you the loss of a week's work or more in laying off for repairs. These and numerous other contingencies incident, and steam in the colliery, caused us to turn our attention seriously to some other power, and the power we fixed on was compressed air.

[*To be continued in next week's Journal.*]

ERECTION OF GAS FURNACES AT CLYDE IRONWORKS.—Two large gas furnaces, upon the improved system, were put in blast on Thursday at Messrs. James Dunlop & Co.'s Clyde Ironworks. These furnaces have been in course of preparation for the last twelve months, and, being the first erected on this principle in connection with these ironworks, the expenditure on tubing and fittings for the whole works was necessarily great. The cost of the entire erections in connection with the two furnaces will probably be over 10,000*l.* The new furnaces are raised to a height of fully 100 ft., being 40 ft. higher than the ordinary blast furnace, and, from their increased cubic capacity, as well as from the advantages of the gas system of working, they are expected to yield a much larger product of pig-iron than the furnaces of the old system. The gas apparatus at the mouth of the furnaces is the same as that already adopted by the Shotts Iron Company at their works. A very successful start was made on Thursday, and when the blast was pulled on every part of the extensive concern worked remarkably well on the first trial, a fact which says much for the careful finishing of the network of piping connected with the gas.

THE LABOUR QUESTION.

Some few months since we noticed the publication in a handsome volume of the excellent lectures on the labour question delivered during the past seven years by Mr. THOMAS BRASSEY, M.P., and pointed out their importance for removing misapprehension which might otherwise result from the statements made by agitators, whose livelihood is derived from the propagation of false views amongst those who are too idle to think for themselves. That Mr. Brassey's exertions have been appreciated may be judged of from the fact that the third edition* has now been issued embodying Mr. Brassey's lectures on the Comparative Efficiency of English and Foreign Labour delivered at Hawkstone Hall, Westminster Bridge-road, in January of the present year, and on the Rise of Wages in the Building Trades of London, read before the Royal Institute of British Architects on Feb. 4, the discussion upon this latter, probably the most instructive and important which ever took place upon the subject, being given as an appendix.

There is not one of the lectures which can be read without great advantage being derived from its perusal, and in no single instance has Mr. Brassey said anything to which either employers or employed can object. He distinctly states that in these addresses he publishes nothing new, but trusts that the exposition of sound doctrines on work and wages to the rank and file of the armies of industry may induce more competent teachers to work in the same field. The soil is fruitful, he remarks, but it demands the labour of the husbandman. That more could be said or written on the subject than is found in the book is no doubt true, but it is equally certain that the principles are so correctly enunciated that the statements may be throughly relied upon.

The first of the lectures, of which the present volume contains thirteen, treats of Labour and Capital, and was delivered in the Workmen's Hall, Birkenhead, in 1871. In it Mr. Brassey remarked that at that time social problems were subjects of paramount interest; and that they are to be solved rather by the independent action of the people than by legislative enactment. He reminds his hearers of the universally accepted axiom of economic science that the rate of wages is invariably regulated by the relative proportions of the capital available for the payment of wages, and the number of workmen seeking employment. The only limit to the fall of wages is the cost of living; the workman's wages must be at least sufficient for his maintenance. Thus the rate of wages being essentially dependent on the relation between supply and demand, it is not possible for a trade combination in the long run to exercise a controlling influence on the price of labour, though concerted action might often obtain an advance of wages at an earlier date. He explains that in Wurtemberg the wages in eight branches of manufacture and industry had increased during the past 30 years without the aid of Trade Unions to the extent of 60 or 70 per cent. He might have added that in 1871 less necessaries and luxuries could be purchased for 1⅛ than were purchaseable in 1841 for 1 thaler. He shows, too, that whilst Trade Unionism existed among artizans in the New England States, and none among the agricultural labourers, the agricultural wages rose in the same proportion, and at the same time agriculture contributed 658,000,000*l.* out of the 1,365,0000,000*l.* representing the annual value of the production of the whole of the leading industries combined. Mr. Brassey wisely recommended that the trades of England should appoint representatives to examine the position of the workmen in the corresponding trades abroad, and explained that our workmen are not sufficiently alive to the necessity which exists for the utmost effort and ingenuity to enable capital invested in England to hold its own in the industrial campaign.

In connection with this subject the discussion in the appendix is particularly worthy of attention. It is evident from the observations of Messrs. Potter and Howell, who may be regarded as foremost amongst Trades Unionists, and of Mr. Lucas, the great contractor, who has worked his way through every branch of his trade, commencing at a salary of 6s. per week, that at the present time in the building trade (and it is the same in all other trades in which the payment is by the day) the men receive 50 per cent. more wages, yet perform little more than one-half the work in the same time, consequently the master now pays 9d. for 3d. worth of work. This Mr. Lucas, with something akin to workman's notions, does not object to provided the public will pay him—all he desires being a 10 per cent. profit for interest on capital, risk, and his own supervision upon the amount he charges his customer for labour; and he adds, that if the men think they can serve their fellows better he will assist them to form co-operative building concerns and conduct them himself, though he does not hesitate to say that in that case they would within a month abolish their Trades Union rules as intolerable. Messrs. Potter and Howell made some statements with regard to Trades Unions, in which they declared that the payment of men employed on similar work a uniform rate of wages was no part of the Trades Union principle. the statement may be taken for what it is worth.

Every observation of Mr. Brassey is worthy of the particular attention of the working classes if they would retain trade in this country. He does not object to the reduction in the hours of labour, but he recognises the undisputable fact that unless each workman produces the same quantity of work evil results will follow. He remarks that a reduction in the hours of labour does not necessarily involve a corresponding reduction in the amount of work performed A little more diligence will easily enable a workman to get through as much in nine hours as in ten, and he mentions the fact that a few years previously Mr. Dolfuss, the great manufacturer of Mulhausen, offered to reduce the working hours by an hour per day if the workpeople would produce the same amount of work in the shorter day; in a month the workpeople had succeeded in doing so. He remarks that in an industry in which machinery is the principal instrument of production no exertions on the part of the operative will compensate for the loss sustained by the restriction of the hours of labour. He anticipates that the solution will be found in the employment of additional labour—that is, each machine being attended by two or three artizans relieving each other, as one watch relieves another on board ship. This would certainly be alike advantageous to the master and to the workman, and would reverse the state of affairs to which Mr. Brassey alludes when he states that in his small personal experience he has seen much to confirm the opinion expressed by Adam Smith that "workmen when they are liberally paid by the piece are very apt to overwork themselves and ruin their constitution in a few years." He reminds the workmen that the comparative cheapness of provisions abroad admitting of low wages goes far to compensate foreign competitors for the higher price of coal and iron.

With reference to the rise of wages in 1873 Mr. Brassey says that it was obviously due to the rapid growth of the general trade of the country. The demands upon the labour market far exceeded the supply, and the artizan and labourer were not slow to take advantage of a situation which afforded to them a brilliant opportunity. But the advance was carried too far. Crawshay, and doubtless many others, could only carry out their contracts at a loss, and his men, instigated by the Union, ceased work, and it became a matter of honour with the masters to prove to their workmen that they were able when acting in concert to fight a successful campaign against the united forces of the Miners' Union. The miners were struggling in the dark, not having any independent information as to the profits realised by their employers. Although the workmen connected with the Union were only 10,000 in number, by their cessation of labour 50,000 of their fellow-workmen engaged in various branches of the iron trade were kept out of work. The Colliers' Union distributed 40,000*l.* in strike pay during the time 800,000*l.* would have been received in wages.

With regard to the stability of the co-operative system Mr. Brassey's observations are not very encouraging, and he remarks that it cannot be doubted that the co-operative system tends to diminish the business of that large class who earn their livelihood in the retail trade of the country. The co-operative system appears to be destined to be short lived, for Mr. Brassey states that in 1872 (the co-operative concerns were then much more popular than they are now that more experience has been had of them) half as many withdrew as those who joined. The best principle to follow is to recommend your acquaintances to support co-operation because it keeps up prices, but carefully avoid the stores yourselves, and do business only with individual tradesmen who will let nothing leave their shops except for ready money. Had the promoters of co-operative stores had to compete with ready-money tradesmen only their establishment would never have been possible. Mr. Brassey suggests co-operative production, but few who have impartially considered the subject will doubt that the system must be disadvantageous to the working man. The several trials made of the system have proved lamentable failures, and the only apparent success is the case in which the employers converted their own business into a co operative partnership, and retained almost the sole control of the management, and by far the larger portion of the profits. The truth is that a successful employer of labour cannot be created by the voting power of the working men, since the majority of these, for the reason expressed by Mr. Brassey and already noticed, would elect the most fluent talkers, who are usually the least competent workers, and those least inclined to consider the interests of their fellow-workmen.

The lecture on Work and Wages in 1877 is a most instructive one. Mr. Brassey is decidedly in favour of payment by results, and states that his father entertained the firmest convictions on this point. He knows that many Trades Unions object to it on the ground that payment by the piece leads to overwork and bad workmanship. The answer to this is that whatever may be the particular form of payment, whether it be by piecework, contract, gratuity for extra diligence, or percentage upon profits, it is essentially necessary to give to the workman a personal motive for exertion. This must come from the prospect of participation in the profits which have been earned by his labour. His share in those profits should, of course, be proportionate to the amount of labour which he has contributed. Throughout the lectures Mr. Brassey uses his best endeavours to place the truth before the working classes, so as to give them an opportunity of profiting by it, yet he evidently recognises the rights of labour, and would have labour well paid for, but also properly performed. The lectures cannot be too extensively read both by employers and by workmen.

* "Lectures on the Labour Question." By THOMAS BRASSEY, M.P. Third edition. London: Longmans, Green, and Co.

PRACTICAL GUIDE TO NORTH WALES.

At this season of tour making North Wales naturally puts in some claim to consideration, yet half of the enjoyment of a visit to that picturesque district is lost without the assistance of a good guide. That a living companion acquainted with the locality is most desirable cannot be doubted, but as this cannot always be secured, it is fortunate that a good guide book can be made a satisfactory substitute. Tourists of the Lake District are well acquainted with Jenkinson's Practical Guide,* and the same author has now published a similar volume with reference to North Wales. The author states that he has strictly adhered to the plan adopted in his former works, and has personally visited every place mentioned, and made memoranda on the spot. As he has had almost every page of the manuscript submitted to the most competent authorities in each district, there can be no doubt that the volume will prove reliable. In addition to the six counties constituting North Wales, Mr. Jenkinson includes the cities of Chester and Shrewsbury, and that part of Cardigan embracing the Plynlimmon Mountain, and the town of Aberystwith. Visitors usually begin their North Wales tour either at Chester or Shrewsbury, and Mr. Jenkinson has planned his book on the assumption that they enter at Chester and Shrewsbury, although information upon any point can be very readily obtained. The book is divided into eight sections—Chester, Llandudno, Bettws-y-Coed, Snowdon, Dolgelley, Bala, Llangollen, and Aberystwith—and from the manner in which the information is given it will prove equally useful for a hasty visit or lengthened stay.

The tourist to North Wales by availing himself of the trains and coaches may, Mr. Jenkinson explains, in a few days traverse the most popular routes, but the scenery is so fine, and the places of interest so numerous in the Principality, that months may be spent without having visited all the spots worth seeing. Although North Wales contains wide wastes of dreary moorland, and has no lakes which can compare with those of Cumberland and Westmoreland, yet few countries can boast of such a combination of beautiful coast scenery, lovely valleys, and grand mountains, of so many historical associations, of a language so ancient and interesting, or of so many remains of prehistoric British, Roman, and mediæval times. Mr. Jenkinson first explains how best to spend a flying visit to North Wales, and furnishes full details for a seventeen days' tour. From his statement of hotel tariffs, it would appear that 10s. a day would usually cover board and lodging. There are excellent lists of mountains, lakes, and tarns, and an admirable vocabulary of Celtic rootwords forming place names in Wales.

As the pleasure of a tour is always increased by the free use of one's eyes and intellect Mr. Jenkinson gives a brief outline, in about 20 pages, of the geology of the district; and similar chapters on the botany, the mines, and minerals, and the angling resorts, so that the tourist may keep his mind well occupied whilst pursuing his journey. With regard to the Guide itself it is written in a most interesting style, and is really attractive reading even for those who have no intention of making the tour described, and it is certainly a volume which no tourist could afford to be without.

* "Jenkinson's Practical Guide to North Wales." By HENRY IRWIN JENKINSON. London: Edward Stanford, Charing Cross.

SAFETY WINDING APPARATUS FOR MINES.

The object of the invention of Mr. F. KOEPE, of the Hannover Collieries, Bochum, Westphalia, is to simplify and improve the arrangement of the winding drum, and in combination with such improvements to provide for an efficient safety apparatus, to balance the weight of the rope, and to prevent the cages from being lifted too high. The two drums and the overhead pulleys of the ordinary winding arrangements are, in this case, replaced by a single pulley having a groove on its periphery. This pulley is keyed on the shaft of the winding engine or otherwise driven by the same, and is placed over the working pit. The winding rope, which is simply hung over the said pulley so as to encircle only its top part, is actuated by friction alone. If the pulley is larger than the distance between the centres of the two divisions of the pit, suitable guide pulleys have to be employed.

In arranging the apparatus a shaft is placed below the winding pulley and carries two other grooved pulleys over which are placed auxiliary ropes attached at the ends to the hoisting cages. The bearings of the said shaft are supported by springs. Supposing the tension of the auxiliary ropes to be regulated in such a manner that the springs bear a part of the weight of the cage, &c., and a breakage of the winding rope occuring, the whole weight of the cages and the load will be thrown on the springs, which are thereby compressed. The pulleys, over which the auxiliary ropes run, are thereby drawn down to a certain amount, and their rims brought into con act with a fixed brake beam, so that friction ensues, which causes the pulleys, and consequently also the cages, to be stopped. For the purpose of balancing the weight of the winding rope and of the auxiliary or safety ropes a rope, having the weight of the three together, is attached with its ends to the under side of the cages, whilst its bight is at the bottom of the pit.

The total weight of rope on one side of the winding pulley is thus balanced by the weight on the other side, at whichsoever point of the pit the cages may be. The cages are prevented from being lifted too high by regulating the tension of the auxiliary or safety ropes in such a manner that the friction between the winding pulley and the main rope is just sufficient to raise a loaded cage, whilst the empty cage is suspended by the descending part of the rope. When, under these conditions, the empty cage settles on the platform at the bottom of the pit, its weight is taken off from the winding rope,

whereby the friction on the winding pulley is decreased, so that this pulley slips under the rope without raising any further the loaded cage.

Meetings of Public Companies.

CEDAR CREEK GOLD MINES AND WATER COMPANY.

A general meeting of shareholders was held at the offices of the company, Austinfriars, on Wednesday,

Mr. C. I. St. ALPHONSE in the chair.

Mr. W. J. LAVINGTON (the secretary) read the notice convening the meeting, and the accounts.

The CHAIRMAN having explained that he occupied the chair in the absence of the Chairman (Mr. G. Batters), who had not arrived, went on to say that the board had been deprived of the services of Mr. Briggs, who had sent in his resignation as a director, although the board had not yet accepted it, Mr. Briggs feeling that his position as a trustee to the debenture holders was not compatible with his position as a director and representative of the shareholders. Having been called upon at a moment's notice to occupy the chair he was not prepared to go at any length into the affairs of the company, but if any shareholders would ask a question they would be fully answered. He then moved the adoption of the accounts.

A DIRECTOR seconded the resolution.

Mr. WALKER said he thought the printed accounts ought to have been in the hands of the shareholders before the meeting, so they might have had an opportunity of making themselves fully acquainted with their contents.

Mr. LAVINGTON fully admitted that this was most desirable, but explained that on the present occasion it was impossible, as the accounts had not been sent over in time to allow of their being printed and sent to the shareholders for the meeting.

Mr. WALKER moved the adjournment of the meeting, in order to allow time for the accounts to be printed and sent round to the shareholders.

A SHAREHOLDER seconded the resolution.

Mr. WALKER said he did not wish to be hostile, but it was a matter of justice to the shareholders that the accounts should be sent round before the meeting.

A SHAREHOLDER, who said he came from Manchester, and that it would be inconvenient for him to attend an adjourned meeting, said that perhaps the directors would be able to give some information relative to the mine.

Mr. G BATTERS (who had entered the room) said it was a matter of great regret to the directors that the shareholders had been asked to attend without the accounts having been sent round, but, as the secretary had explained, there really had not been time to put them in print and send them round. There was nothing to conceal. Mr. Briggs, who took the chair on the last occasion, had a large sum of money in the concern, and had given it his most watchful and busines like attention, but had been thwarted in bringing the thing to a successful issue. The want of success had arisen from no lack of effort and labour on the part of the board. They had had difficulties of no ordinary kind to contend against, and every item in the accounts was capable of explanation, and the secretary would be happy to explain them.

The CHAIRMAN said he always thought a plain straightforward plan of proceeding was the best, and the directors would be only too happy to afford every information. Having referred to the unfortunate results which attended the management of Mr. Ludlum, he went on to say that in the place of Mr. Ludlum they had appointed as manager Mr. Stone, who, he believed, would make a very honest and straightforward manager. The great thing was to pay off the indebtedness over there; that indebtedness was 18,000*l.*, and he might mention that so great was the faith of the American creditors in the property that they offered not to foreclose so long as the company paid them off as profits accrued. A satisfactory arrangement had been come to with regard to certain labour claims over there.

Mr. LAVINGTON, in answer to a question as to what returns had been earned, said that on Feb. 28 the clean up on the Central claim amounted to $6000, on March 21 the clean up on the Baker claim to $5000, April 13 the clean up on the Central claim to $5654. April 13 clean up on the Baker claim to $426, May 18 clean up on Baker claim to $4450, and May 18 partial clean up on the Central claim to $3,000. The corresponding expenses had not yet arrived, except in one instance—$4480, as the expense of the Baker claim run to May 18. He could not state with certainty, but he should imagine there had been profit on the runs.

Mr. G. BATTERS said that any mistake at the present time might land the company in shipwreck. Any suggestions as to the future management would be carefully considered, and the directors would be very happy if any shareholders would join the board. Having now got rid of Mr. Ludlum, and having, as he believed, a good man in Mr. Stone, he hoped and believed they would go on much better in future, therefore he ventured to suggest it would be to the interests of the company if the shareholders were to pass the present accounts without adjourning the meeting. For his own part he should be glad if two or three gentlemen would act as a committee of consultation with the board.

Mr. BRIGGS explained that when he, in conjunction with Mr. Halls, was appointed trustees for the debenture-holders he had resigned his position as Chairman, considering it was incompatible to fill the two positions. Since Mr. Stone had been appointed he had had great difficulties to contend with, but the directors had every reason to be satisfied with what he had done. Mr. Stone seemed to have made returns from the central and other claims, which Mr. Ludlum never seemed able to do. He last night went through the accounts, and so far as he could see they seemed to be perfectly correct. The returns had not been so good since the present washings as was expected, but no accounts had yet been received showing the expenses, and, therefore, it was impossible to say what the profits were. At any rate the sale of water must have been sufficient to pay the interest upon the debenture debt in America.

The CHAIRMAN, in answer to Mr. WALKER, said that Mr. Stone was manager of the Gold Run Mine as well as this mine, and his salary was paid half by one company and half by the other, which lightened the cost to each company. He had seen Mr. Stone, and judged him to be an honest, hard-working man, and came to the company with excellent recommendations.

Mr. CHADBOURNE, in answer to Mr. WALKER, said that the creditors over there had appointed a committee, who were present at every clean-up, so there was no chance of the gold being misappropriated.

Mr. BRIGGS said he did not think they could have a better man than Mr. Stone, who was making a success of Gold Run, and paying off arrears of interest. He certainly thought Mr. Stone was carrying out all he had promised in connection with the Cedar Creek.

Mr. BATTERS said that although the directors' remuneration was charged in the accounts, the directors had not received any remuneration, and the directors would forego that amount, and also give their services for nothing during this year.

Mr. WALKER said that under these circumstances he would not press his amendment.—The resolution for the adoption of the accounts was then put and carried.

Mr. Walker and Dr. Grosvenor were then, at the suggestion of the directors, elected to seats at the board on the motion of Mr. FRANKS, seconded by Mr. HANKEY.

Messrs. Good, Daniels, and Co. were then re-appointed auditors on the motion of Mr. BRIGGS, seconded by Mr. WALKER, and a vote of thanks having been passed to the Chairman, the meeting broke up.

WHEAL CREBOR MINING COMPANY.

The four-monthly meeting of shareholders was held at the office of the company, Gracechurch Buildings, on Thursday,

Mr. J. Y. WATSON, F.G.S., in the chair.

The following report was read:—

July 10.—I beg to hand you my report of this mine for the meeting appointed to be held to-morrow. The lode in the 120 end east is 3 ft. wide, and worth 8*l.* per fathom. The lode in the No. 1 stope has slightly improved during the past week, and is now 4 ft. wide, and worth 6*l.* per fathom, and as the lode here is very changeable I do expect a further improvement very shortly, as there is a good lode gone down in the bottom of the 108, immediately over this stope. The lode in the No. 2 stope in the back of the 120 is 5 ft. wide, and worth 15*l.* per fathom. The lode in the 108 east is 6 in. wide, yielding a little mundic and copper ore, but not to value. The lode in the 72 east is 3 ft. wide, composed chiefly of quartz and capel. The lode in the 48 east is 4 ft. wide, composed of quartz, capel, and mundic, and occasional stones of copper ore. The new shaft is now down 18 fms. 1 ft. below the surface. At 11 fms. below the surface we intersected the lode, where we commenced to sink on its course, and for 3 or 4 fms. sinking it gradually improved in width and appearance until it reached 4 ft. wide, and yielding both copper and mundic, but in the last 2 fms. or 3 fms. sinking it has not looked so promising, but I am inclined to think the main part of the lode is still standing farther north, which we can easily prove by a short cross-cut, but I think it better to continue the sinking a few fathoms farther before cross-cutting, as the lode may take a more perpendicular direction and get into the shaft again. The shaft we sinking, as near as we can judge, at the proper angle of the lode, but we cannot follow its windings, if so it is most likely we should have a crooked shaft. We are at the present time engaged in erecting a drawing machine at the new shaft, which I hope will be completed and ready to work in a fortnight from this time. The lode in this mine is subject to very sudden changes, which makes it difficult to estimate the returns with any degree of accuracy, but I hope to be able to raise from 140 to 150 tons during the next two months.—JOHN ANDREWS.

The CHAIRMAN stated that the accounts presented showed a loss of 103*l.* 10s. 1d. on four months' working, but as there was a credit balance in hand of 205*l.* 7s. 1d. no call would be required. The costs were charged up to May 18 (paid in the middle of June), and the ore credited was up to the same time. Another month's cost,—180*l.*—would be due soon after the meeting, but it was not charged, neither were the ores credited against it. The ores sold for the four months included in the present accounts were 306 tons, and they realised 881*l.* 17s. 2d. Had the price of copper kept at that obtained a few years ago, a profit would have been shown of 400*l.* instead of a loss of 103*l.* The committee have had the costs reduced as much as possible, according to the exigencies of the times, but under the new lease, as the shareholders were aware, certain work, particularly that of sinking the new shaft and driving certain levels towards the new ground, had to be done, which increased the current costs 40*l.* to 50*l.* per month. The agents hope to raise 140 to 150 tons of ore for the next two months, which at a fair price would meet the cost. The application made to the Duke of Bedford, in accordance with the resolution passed at the last meeting, for a remission or a reduction of dues was met with a flat refusal, and the agents were now pressing for amounts due to the present time.

Mr. KINNEAR, and other shareholders, expressed their great satisfaction at the state of the accounts, and their dissatisfaction at the illiberality of the lords. They had, they said, in reference to the former, attended in the full expectation of a call of 3s. or even 5s. per share, and were well pleased to find that no call whatever was required. Mr. Kinnear, therefore, begged to propose a vote of thanks to the Chairman, and the management of the mine.

The CHAIRMAN, in expressing his thanks for the vote, said that he believed no mine in the country was worked more economically or was better looked after than Wheal Crebor. Mr. Clift and himself went through every item of the accounts monthly, and endeavoured to practice every economy consistent with the proper development of the mine. Wheal Crebor had the one great advantage of being worked cheaply by means of water-power, and with a better price for copper might pay good profits. The new shaft was going down on the course of the lode, and any day it might so improve as to change the loss into a profit, even with the present price of copper.

MARKE VALLEY.—At the meeting on Wednesday (Mr. F. G. Lane in the chair), the accounts showed a debit balance of 589*l.* 12s. 11d., and a balance of assets over liabilities of 526*l.* 2s. 9d. Capts. George and Stenlake reported upon the various points of operation. They have nine stopes working in different parts of the mine by 37 men, yielding in the aggregate 35 tons of ore per fathom, and 21 pitches, by 45 men, at tributes varying from 6s. 8d. to 13s. 4d. in 1*l.*

HERODSFOOT.—At the meeting on Tuesday (Mr. Matthew Loam in the chair), the accounts showed a loss on the 16 weeks' working of 103*l.*, but there was a cash balance of 277*l.*, and a balance of assets over liabilities of 541*l.* A special report by Capt. Rich, of South Condurrow and Wheal Uny, was read, and it was resolved—"That this meeting records its sense of the great loss the mine has sustained in the death of their late manager, Capt. Thomas Trevillion, who had faithfully discharged his duties during his 27 years' management, in which he successfully worked the mine, which had divided among the shareholders profits amounting to 79,508*l.*"

WHEAL BASSET.—At the meeting, on Tuesday (Mr. R. R. Broad in the chair), the accounts showed a loss on the 16 weeks' working of 992*l.* 0s. 3d. The agents' report having been submitted, the purser (Mr. Martin) read a letter from Mr. Basset's steward, stating that Mr. Basset had directed him to say that the dues would be remitted while the present state of affairs existed provided the mine continued to be satisfactorily worked. A call of 2*l.* per share was made, and the Chairman expressed the hope that would be the last call they would have to make.

THE SOUTH DE ERESBY MOUNTAIN LEAD MINE.

MR. JEHU HITCHINS'S REPORT.

As requested, I have visited this property, and learn that the grant is sufficiently extensive for mining operations on a good scale; and from my experience of the district to the north thereof, I am fully persuaded the lodes of the D'Eresby Consols and D'Eresby Mountain Mines run into and through your holding. Already four north and south lodes have been discovered, and one east and west lode, all more or less promising.

On the No. 2 lode, which is 12 ft. wide, an engine-shaft, now 3 to 4 fms. deep, is being sunk, in which shaft are four leading branches of solid lead ore, from ½ to 1 in. wide, with the rest of the vein composed of sparry matter, containing faces and mixed lead ore, worth altogether about 1½ ton per fathom; and, in my opinion, indicating a speedy improvement as depth is attained.

The cross-cut, No. 1 adit, is being driven from the western valley to intersect the lode deeper, and within the last few days more water has been met with in the end, with faces of lead ore in the joints of the rock, which indicate that the lode is not only not far off, but that it is likely when cut into to be a productive one. At about 8 to 10 fms. west of the lode is another one, on which a shaft has been sunk, the work of a former exploration, in which pumps were placed to drain it—now left, but the wheel is gone, so that there is the water in.

It is said that in the bottom of this shaft there is a good lode left, which, for want of funds, could not be explored to a greater depth. However, the stopes therein both north and south for a good distance were worked as long as the water could be kept out by the water-wheel they had.

There are other points in operation showing very promising indications on an east and west lode, as also a north and south one. In the latter (the north and south lode) is discovered a good productive leader of ore, worth 1 ton of lead per fathom.

The general stratification in which these lodes are contained I regard as most favourable, which I can with confidence pronounce to be productive of mineral; and, moreover, its surface inclination admits of securing the advantages of a much deeper adit level. I am informed, also, that water power can be secured for deeper explorations when required, so that I regard this property as presenting a field for mining operations of more than ordinary character.

St. Michael's House, Cornhill, July 1. JEHU HITCHINS.

FOREIGN MINING AND METALLURGY.

In the Haute-Marne the iron trade is dull—in fact, it is passing just now through the dead season, when orders become rather weaker. Merchants are not making purchases, and the dulness in affairs will probably continue until the close of the harvest. Mixed iron is worth from 7*l.* 12s. to 8*l.* per ton, and this price is supported with firmness, producers refusing to make any concessions as regards prices. There are great complaints as to the state of the iron trade in the Franche-Comté district; it is almost feared that the manufacture of charcoal-made iron will soon become a thing of the past. Coke-made iron is selling at 7*l.* to 7*l.* 4s. per ton. In the Ardennes coke-made iron is quoted by continuation at 6*l.* 12s. to 6*l.* 16s. per ton, but comparatively little business has been done as the construction and other workshops are not very well supplied with orders. In the Loire-et-Rhone district the demand is a little better than formerly; plates have especially been in good request.

The price of Somorrostro (Spain) iron minerals gave way slightly during May, in consequence of the troubled state of Europe. The exports of Somorrostro minerals from Bilboa during May amounted to 94,698 tons, of which 49,290 tons went to England, 16,945 tons to France, 5740 tons to Belgium, 5638 tons to Holland, and 17,085 tons to the United States and other countries. For some time past the exports of Somorrostro minerals to the United States have been rather increasing.

The current of business prevailing in the Belgian coal trade remains feeble except for coke, for which contracts are now being renewed. It is expected that a slight upward movement will occur in prices in a few days, as when the ironworks have completed their stock-taking they will probably deem it advisable to lay in supplies of coke.

There is rather a more cheerful feeling in the coal trade of the French department of the Nord and the Pas-de-Calais. Warmer weather has greatly improved the appearance of the sugar beet crop, and the proprietors of sugar works are accordingly expected to give out orders for coal. In the basin of the Loire the coal trade is dull and depressed, the miners are only working four days per week, and even with this reduced extraction stocks exhibit a tendency to accumulate.

Stock-taking has been the principal current feature in the Belgian coal trade during the last few days. Industrials have been seeking out orders with great pains and much perseverance. These orders are, however, only secured with great difficulty, and heavy sacrifices have to be made in order to obtain them. Only those firms which produce superior qualities of iron have any chance of procuring a continuity of work. Belgian ironmasters appear to be fully impressed with this, and the products of Belgian metallurgical industry now on view at the Paris Exhibition afford a proof of the justice of the remark. Contracts for a large quantity of *materiel* required for the Belgian State Railways will be let at Brussels at the close of this month. Payment is proposed to be made one-fourth in cash and three-fourths in old materials. The old materials referred to comprise 4000 tons of Vignole rails of Belgian manufacture. The John Cockerill Company is completing in its Hoboken yard a steamer of 800 tons burthen, intended to be employed upon the Caspian Sea. The steamer is to be supplied with an engine of 200 horse power, to work two screwa, with a consumption of 12 tons of coal per day. The same company is about to commence the construction of another steamer of the same type. By such a policy as this it finds outlets for the products of its steel works.

The Belgian Collieries Company has reported recently upon the operations of 1877. Those operations were attended with a loss of 3848*l.* The company produced 3,498,204 hectolitres of coal last year, as compared with 3,594,711 hectolitres in 1876. The quantity of coke made last year was 56,575 tons, as compared with 72,139 tons in 1876. The quantity of coal sold in 1877 was 3,509,542 hectolitres as compared with 3,626,457 hectolitres in 1876. Coke was sold in 1877 to the extent of 59,544 tons, as compared with 70,834 tons in 1876. The company expended 24,279*l.* upon works of first establishment in the course of 1877.

WATSON BROTHERS' MINING CIRCULAR.

Ten years ago the weekly information which had previously been published for a great number of years in WATSON BROTHERS' Mining Circular was transferred to the columns of the *Mining Journal*, with the following announcement; which is now reproduced in consequence of the numerous letters and enquiries handed to them of late in reply to one which appeared in the Journal on the Clementina Mine.

In the year 1843, when mining was almost unknown to the general public attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1843, by Mr. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with Statistics of the Mining Interest, annually for 21 years, &c., &c. In the Compendium, published in 1843, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring the success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest an experienced advice in regard to mines and sharedealing than there is at present and from the lengthened experience of Messrs. WATSON BROTHERS they ar emboldened to offer, thus publicly, their best services and advice to all connecte with mines and mining.

Messrs. WATSON BROTHERS are daily asked their opinion of particular mines, as well as to *recommend* mines to invest or speculate in, and they giv their advice and recommend mines to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts, but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

The great extension of mining business, the difficulty so often complained by country shareholders in getting accurate and disinterested information as t the state of Cornish and Foreign Mines, and of the financial and real position o mining companies generally, have induced Messrs. WATSON BROTHERS to mak their Circular now published in the *Mining Journal* more extensively known, and to state—

That they issue daily to clients and others who apply for it a Price List (as supplied to most of the London and country papers), giving the closing prices of Mining Shares up to Four o'clock.

They also buy and sell shares for immediate cash or for the usual fornightly settlement in all Mines dealt in on the Mining and Stock Exchanges, at the close market prices of the day, free of all charges for commission. They deal also, on the same terms, in the Public Funds, Railways, Telegraphs, and all other Securities dealt in upon the Stock Exchange.

Having agents in all the mining districts, they are constantly getting mines inspected for their own guidance, and will also obtain special reports of any par ticular mine for their clients, for the inspecting agent's fee of £2 2s.

D'ERESBY MOUNTAIN, D'ERESBY CONSOLS, ABERLLYN, AND CLEMENTINA.—The directors have resolved that inspections of these mines shall be limited to once a fortnight, and the next inspecting day will be on Thursday. So many people have visited D'Eresby Mountain of late that the works have been delayed, and the agent's time too much taken up by attending upon almost daily inspectors. We are glad to say all the mines look well, and as soon as the machinery is ready at the former good returns will be made.

HERODSFOOT has paid dividends amounting to 79,508*l.*, but chiefly from the south ground. We have heard it rumoured, but cannot answer for its truth, that the old part of the mine is to be re-worked. The present company was formed in 1845, when we issued the shares (256ths), at 5*l.* each to our friends and clients. The mine was afterwards divided into 1024 shares, and they reached 40*l.*, or at the rate of 160*l.* for the original 5*l.* shares.

SATURDAY, JULY 6.—Market very quiet. D'Eresby Mountain, 80 to 100; Van, 21 to 22; Great Laxey, 17½ to 18½; D'Eresby Consols, 10 to 12; East Van, 3¾ to 4¼; Roman Gravels, 7½ to 8; Carn Brea, 38 to 40; South Condurrow, 11¼ to 11¾; South Frances, 2¾ to 3¼; Dolcoath, 28 to 30; West Tolgus, 58 to 60; Devon Great Consols, 2½ to 3; Richmond, 12 to 12½; Eberhardt, 6¾ to 7¼.

MONDAY, JULY 8.—Market continues inactive, and prices merely nominal. Carn Brea, 39 to 41; Devon Great Consols, 2¾ to 3; Dolcoath, 27 to 29; D'Eresby Mountain, 80 to 100; D'Eresby Consols, 10 to 12; East Van, 3¾ to 4¼; Grogwinion, 3 to 3¼; Great Laxey, 17½ to 18½; Leadhills, 3½ to 3⅝; Morfa-du, 16s. to 18s.; Parys Mountain, 7s. 6d. to 8s 6d.; Pateley ridge, 15s. to 20s.; Penstruthal, 5s. to 7s.; Roman Gravels, 7½ to 8; Rookhope Lead, 17s. to 19s.; South Condurrow, 11¼ to 11¾; South Frances, 2¾ to 3¼; Tankerville, 3¼ to 3½; Tincroft, 9 to 10; Van, 21½ to 22; West Chiverton, 8 to 9; West Tolgus, 58 to 60; Agar, 3¾ to 4; Grenville, 3 to 3¼; Peevor, 6 to 6½; Wye Valley, 1½ to 2; West West Valley, 2¼ to 3; Richmond, 12 to 12¼; Chontales, 7s. 6d. to 12s. 6d.; Don Pedro, 12s. 6d. to 15s.; Eberhardt, 6¾ to 7¼; Flagstaff, 12s. 6d. to 15s.; Frontino, 1¾ to 2; Javali, 7s. to 9s.

TUESDAY, JULY 9.—Market very quiet, and prices the same as yesterday.

WEDNESDAY, JULY 10.—Market inactive. Van, 21½ to 22; East Van, 3¾ to 4; D'Eresby Mauntain, 80 to 100; D'Eresby Consols, 10 to 12; Grogwinion, 3 to 3¼; Roman Gravels, 7½ to 8; Tankerville, 3¼ to 3½; Great Laxey, 17½ to 18½; Dolcoath, 28 to 33; South Condurrow, 11¼ to 11¾; South Frances, 2¾ to 3; West Tolgus, 57½ to 60; West Chiverton, 8 to 9; Richmond, 12 to 12¼; Eberhardt, 6¾ to 7¼.

THURSDAY, JULY 11.—There is very little change in prices to-day, and quotations for the most part are the same as yesterday.

FRIDAY, JULY 11.—Market continues very quiet. Van, 20 to 22; D'Eresby Mountain, 80 to 100; D'Eresby Consols, 10 to 12; East Van, 3¾ to 4¼; Roman Gravels, 7½ to 8; Tankerville, 3 to 3½; South Condurrow, 11¼ to 11¾; South Frances, 2¾ to 3; Dolcoath, 27 to 29; Tincroft, 9½ to 10½; West Tolgus, 57 to 59; Devon Great Consols, 2½ to 3; Great Laxey, 17¼ to 18½.

THE WEEK.

The D'ERESBY MOUNTAIN DISTRICT we found, oddly enough, when down the other day, to be suffering from want of water; lead is as plentiful as ever, but the means for dressing it are for the moment wanting. The River Conway has strean to the size of a small trout stream, and several reservoirs refuse their office; course, a couple of days' rain will change all this. More than one mine draws its supplies from a deep natural lake, and can thus defy any drought. It is pe babie that the silent sunless Geironydd lake may become the scene of busy opera tions. At present there is Taliesin the bard's monument, half-a-dozen plowm and no other society whatever. Small local companies drill into the hills around, and it is not a little instructive that when the lead is reached one or two thousand is not considered too high a price to ask. The district is viewed with high favour by all who visit it, and is increasing daily in importance.

CLEMENTINA.—After seeing this valuable property, where the shaft is now deeper than at any mine in the district, it seemed strange that the shares should be only 1¼ or 1¾. There are but 5120 of 1*l.* each fully paid in all, and if they were selling at 5*l.* it would only be about 25,000*l.* for the whole mine. The lode is as fine as anyone could desire to see, but dressing operations await the full rain. On the hills behind the reservoir is placed near an ancient British village diluvians, yet they professed to fear that the reservoir would burst, and so it was possibly unchanged since the Tudors, the inhabitants not looking unlike emptied, and re-strengthened to satisfy them, to the great loss of valuable time at the mine. The shares are very seldom offered on the market.

D'ERESBY MOUNTAIN.—Great progress with the erection of the necessary machinery has been made since visiting last. The mine more than maintains its reputation, and the directors have at length been compelled to decline issuing orders to inspect, except on one day each fortnight, when the usual facilities will be granted.

PANDORA.—Nowhere in the neighbourhood has so much care and expense been bestowed on reservoirs as here, but they are all dry, though the largest in itself is usually sufficient for an eight weeks' supply. The water-wheel, in self defence, has been obliged to decline to draw the water from the shaft, which has gained ground rather rapidly during the last few days. A small and cheap portable engine would soon overcome the difficulty, however, and as there is an abundance of peat, the costs need not be increased much. Pandora has always stood high in local opinion, and is looking the best at the deepest point reached.

LLANRWST.—This mine continues to be vigorously worked with encouraging results. We heard that they are taking on more men, and that the returns are being increased already.

D'ERESBY CONSOLS.—There are two good lodes here known as Owen's and Cobbler's, from which important results may be anticipated. One or two shareholders having pressed their shares for sale, quotations have been slightly lowered but, on the whole, the shares are well held by strong people, who intend to see the mine properly opened. The prospects are very good.

SATURDAY, JULY 6.—The market for foreign bonds was firm all day, it being understood that the Batoum difficulty will now be surmounted. Russian, rose to 86¼. A new loan for 40,000,000*l.* continues to be talked of. Turkish

bid for on the strength of there being a chance of something "good" cropping up very shortly. New Zealand Kapanga, 1 to 1¼. United Mexican, 3½ to 4. Colorado, 6 to 6¼; Richmond, 12 to 14.

MONDAY.—On it becoming known that Turkey has ceded to us Cyprus, in consideration of our protecting her interests in Asia, there was marked activity in the foreign market, an important rise being established. Turkish, 1858 loan, advanced 2l. (20½ to 21½), and that of 1869 1¼ (18½ to 19). The Five's closed at 16. Russian rose to 87½. The Portuguese Government invite applications for a 3 per cent. loan of 2,500,000l., the price of issue being 50l. per 100l. bond.

TUESDAY.—Prices drooped to-day, and in several instances closed below yesterday's level, large selling orders being received from the Continent. Turkish, 1858, fell 1l., and the 1869 loan ½, but the Five's only declined an eighth. A settling day has been granted for the new preference shares of the Royal Aquarium, and to-day they were put up 10s., closing at 5⅝ to 5¾. The accounts of Pawson and Co. show a net profit for the half-year of 11,000l., or 18,000l. total when the previous balance is added; from this a dividend of 5 per cent. (6000l.) has to be taken, leaving a considerable sum to be carried forward. The shares touched 7 to-day, being the highest reached since 1875.

WEDNESDAY.—Turkish 1858 and 1869 were in considerable request, and left off at an important rise. The first from being 21½ advanced to 24; the rise in the other was 1¼. The Fives improved a quarter. The Metropolitan Railway dividend was announced as 5 per cent., against 4½ last year. The stock was unchanged, at 118½. At the corresponding period of 1877 the price was 111.

THURSDAY.—The South-Eastern dividend will, it is stated, be 4 per cent., against 3½. Should the same improvement be shown in the next half—from 7½ to 8 per cent., the ordinary stock would then receive 6 per cent. for the year. It is feared that in most instances the heavy lines will pay less than they did last year. Parys Mountain, 7s. to 9s.; Aberdaunant, 7s. to 9s.; Llanrwst, 2 to 2¼; Port Phillip, 11s. to 13s.; Chicago, 10s. to 15s.; Wheal Owles, 5 to 10; Leadhills, 3¼ to 3½; West Tankerville, ¼ to ⅜.

FRIDAY (*Opening*).—Prices show but little change from last night, but are firm on the whole. Russian, Egyptian, and Turkish bonds are all slightly higher. In mining shares Colorado is flat, and offered at 5¼; National Discount, 10¾ to 11; United Discount, 6½ to 6¾; Ottoman Bank, 8⅞ to 9⅛; Pawson, 6¾ to 7¼; Anvil, 7s. to 9s.; Kapanga, ⅞ to 1⅛; Richmond, 12⅛ to 13¼; New Quebrada, 1⅛ to 1⅞.—*Two o'clock.*—The Brighton dividend is announced as 4¼ per cent.; this is equal to expectations, but the stock has declined in price. Dover, A, has fallen to 129¼. The Sheffield dividend will be 1¼ per cent. Foreign bonds remain firm, and Egyptian Unified is now up to 55. Pateley Bridge, 15s. to 20s.; Pennruthal, 5s. to 7s. 6d.; West Tankerville, 5s. to 7s. 6d.; Tankerville, 3 to 3½; East Van, 3¼ to 4; Wheal Grenville, 2½ to 3; Glenroy, ⅝ to ⅞.—*Four o'clock.*—Chatham ordinary and preference are down, as is frequently the case on the approach of settling-day. Ottoman Bank shares have risen to 9⅜, and Egyptian Unified is up to 55⅜. Grogwinion, 3 to 3½; Great Laxey, 17½ to 18½; Port Phillip, 10s. to 12s. 6d.; Don Pedro, 9s. to 11s.; Devon Consols, 2⅝ to 2⅞; Chapel House Colliery, 3 to 3¼; Bilson and Crump, 2 to 4.

FERDINAND R. KIRK.

THE WILD DUCK, OR SPORTSMAN'S ARMS.

"I've been thinken since our last mitten comrades," says Uncle Henny, "what wonderful changes have took place since we can mind all about Camborne, and all the district east, west, north, and south." "It's sure," says Old Tom, "and some of we can mind too the battle of Waterloo, 63 years ago this month I reckon, and after the peace, all the people working in Dolcoath had a grand denner in front of the great count-house, but before denner the men marched two and two to church with ribbons about their hats, and printed on them 'Peace and plenty, God save the King.' Now that wor one of the greatest sights ever seen in Camborne." "I don't doubt it," says Jan Tenby, "but I wonder how many is living now who see'd that sight?" "Not many," says Uncle Henny, "but no man can tell. I was jest going to say that since I can mind, and you too Old Tom, there was no direct road or main street going through Camborne. Trelowarren-street was not then built, or the road made through College-row, and if anybody came into the town from Cross the should go back again, or go down to the bottom of the town, and then go on to the Cornish Daws. Coming out of Tucking Mill, after you passed Skeowbud's corner, you went on to Roskear village and Cross to Breppar, or through Wheal Gerry, &c., to the bottom of the town, and there was a time when I knowed nearly every body living in the place." "Why, bless your heart," says Old Tom, "I can very well mind when two-third or more of the town wor built, but when Uncle Henny mentioned Sheowbud's corner, I could not help thinking of Uncle Robin Toy, who used to live there. He was the father of a large family of boys and maidens, some of the best singers in the parish after the old man got blind. The higher-side quire went before day, every Christmas morning, to his house to give'n a 'kerl.' Temby was a grand base singer, and the rest of the quire, with Uncle Robin's own family, made such beautiful singing as wor never heard from that time to this. It wor solid sound singing, like a bell, and there was no screeching or groaning as if a man had the colic. Upon the finish, Uncle Robin would say 'Come now, boys, give me thy old kerl, which began—Awake, awake, rejoice and sing, your Saviour Christ is born.' I tell ee what men, we shall never see times like the again, for everybody then worked hard, lived hard, and had a pound in his pocket. Men in the days never tried to be above their masters, and everyone was contented and satisfied with his situation. You never heer'd the men in the days saying anything about four-weeks or five-weeks months. The had 'sist' in the middle of the month, then the pay, and only a fortnight in hand, and everybody was comfortable. But look upon the people now. You know it comrades, as well as I do, that to judge by the dress of all the miners and bal maidens on a Sunday you would never believe there wor a poor man or woman in the county." "But I like to see people dressed decent," says Jan Temby; "So do I," says Old Tom, "if the can afford it and don't go in debt for it. But my dear Jan, less than silks and feathers will not do for poor honest bal maidens, and then again there's the young fellows like fools, wearing their best clothes every day, and dressed up in rings and chains. I suppose some of them may be troubled with fits, and that's the way the wear rings."

All in the mitten agreed with Old Tom, and that it was as much, or more, the fault of the people as the times. "The truth is," says Old Tom, "no man ever backed up an old dowas and built a tidy house for hisself by working short cores or taking excursion tickets." "Well," says Jan Temby, "we wor up to Gwendron Church town many years ago to a berrin, and after a was all over Willie W——r said he wanted to go to Helston for a bit, so a few of us agreed to go too. Well, when we got there we wor just starved with hunger. One wor for going to a cook's shop, another for a public house, but at last we agreed to go to the head of the fountain, and away we went to the 'Hangel Inn Hotel,' as the landlord was formerly from Camborne. We wor put into a grand room by a smart little maid, and Willie said—'My dear, we want something to eat very quick.' 'Oh yes,' says she, 'I'll get mutton chops in a few minutes, so after she went out, 'Darn it,' says Willie, 'that's the very thing, and we shall have lots of broth.' In a short time the little maid come in with a great platter of bones, and not a drop of broth. We soon scraped the bones, and looked like fools, but the question was what was best to be done. So we agreed at last to ask the landlord to come in. Willie axed the little maid if the landlord was home—we wanted to see him for a minnit. Very soon in come the landlord, sure enuff. 'Well, my lads,' says he, "what can I do for you?' So we up and told'n we thot there would be broth with the chops, and that after scraping the bones we wor twice as hungry as when we begun. 'O, I see,' says he, smiling a bit, he said something to the little maid, and while you wink there was a grand round of beef on the table. The landlord carved, and if we did not make a meal it wor a wonder. The landlord then wanted to know all particulars about our names, where we come from, and where we worked; so after we told'n all about it 'I'm a Camborne man,' says he, 'and my name is Dicky Bennetts. Many years ago I was a tributer in South Roskear, Wheal Chance, and Wheal Gerry. We used to work all day and all night, and from Monday morning till Saturday night I got a good many sturts, and took care of them, or I should not be the owner of the Angel Hotel. While I was working in Wheal Gerry Squire H—— had one-eighth dole, but Uncle Will H—— was not satisfied with one-eighth dole, but would have one-twelfth, and he used to keep all his guineas in a great long stocking. Now, my lads, says he, you were right in going to the head hotel, but when you want anything to eat in a hurry ask for cold meat, and you will be all right, and as you were disappointed about the broth with the mutton chops—and I believe you to be honest fellows—you have nothing to pay, and whenever you come again be sure to enquire for Dicky Bennetts.'—*From Cousin Jack's Unpublished MSS.*

PLACERVILLE GOLD QUARTZ COMPANY—WORK IN PROGRESS.—The cross-cut west from the 220 level at the Placerville Company's mine tapped the old works last week at the distance of 18 ft. The immense body of water below the head of the tunnel poured into the shaft, filling the drifts, and rising 20 ft. above the cross-cut. Since that time until Thursday last the work of hoisting it out has been going on steadily, and the mine is now free from water except a sump of 15 ft. in the bottom of the old works. Explorations made show the timbering in the old incline, with the exception of four sets, to be in perfect condition. Prospecting will now be pushed on vigorously above and below, and we hope soon to see a strong force at work on the stopes.—*Mining and Scientific Press* (San Francisco), June 22.

RICHMOND CONSOLIDATED MINING COMPANY.

[In the Supplement to this day's Journal we publish numerous communications with reference to this company. The subjoined, which was forwarded by the directors to the shareholders last evening (Friday), was received too late to print with them.]

TO THE SHAREHOLDERS OF THE RICHMOND CONSOLIDATED MINING COMPANY.—After agreeing to a resolution acceptable to all parties, and proposing it at the adjourned meeting on the 2nd inst., which was to place us all in accord, it is to me a matter of surprise and regret that Mr. Bayliss should issue a circular dated the day after the meeting, the object of which is undoubtedly to disparage the management in the estimation of the shareholders. As a reason for this unexpected proceeding Mr. Bayliss alleges in his circular that I challenged him at a meeting held on June 18 to make a comparison between the results of the management of the Richmond Company and the management of the Eureka Company, and he goes on to say, that "it is now necessary and imperative that shareholders should be enabled to judge of the waste and extravagance which is the distinguishing feature of the past and present administration of the Richmond Company."

On reference to the published reports of that meeting it will be seen that I did not refer to the question of management, but exclusively to the question of the alleged excessive consumption of fuel by the Richmond Company. Such comparison having, however, been attempted by Mr. Bayliss, I consider it to be my duty to the shareholders to point out some of the instances in which his statement is incomplete and therefore misleading. I must for this purpose assume that the figures referring to the Eureka Company are correct, whether they are so or not I cannot say.

First as to capital. The paid up capital of the Eureka Company being 20,000l. out of a nominal capital of 1,000,000l. sterling I may here point out that the future possible liabilities of the Eureka shareholders involves no less a sum than 980,000l. I am unable to explain how with so small a sum paid-up the Eureka Company have obtained their property. The capital of the Richmond Company, which is all paid-up, leaving no future liability on the shareholders, amounts to 270,000l., and has been expended in purchasing and securing the mines or the properties belonging to the company. In the first instance the company paid 200,000l. for the mine, according to the terms upon which the shares were originally taken, and they have since purchased the Tip-Top property for 16 398l., and the Look-Out property for 17,666l., making in all 234,062l. If to this sum be added the expenses of lawsuits in connection with these two properties and the cost of some minor claims, it will be found that the whole capital is thus accounted for.

The capital of the company having thus been exhausted, the directors have paid for all the improvements effected during a period of six years, such as new main shaft, steam-engines, hoisting machinery, six new furnaces, the refinery and apparatus, water supply, new buildings, &c., out of revenue, a sum of 83,000l. having been taken from revenue for these purposes, which otherwise would have been available for a dividend equal to 1l. 10s. 9d. per share. The past dividends have also been reduced from the fact that owing to no provision being made for sufficient working capital, the company have been compelled to pay heavy interest for the advances necessary to enable them to carry on so large a business.

If to the amount of dividends paid by the Richmond Company up to August 31, 1877—180,768l.—this amount of 83,000l. be added, we have a total of 263,768l. net profits made between August, 1871, and August, 1877—or as nearly as possible the whole amount of the capital.

Mr. Bayliss states the amount of dividends paid during the nine months from August 30, 1877, to May 31, 1878, as follows—"Eureka, 270,000l.; Richmond, 60,749l." Now although it is true that the Richmond Company has paid only this amount, it must not be forgotten that we had in hand on May 31 the sum of 139,000l. undivided, making a total of 199,749l., as against the 270,0 0l. said to have been divided by the Eureka Company, a sum equal to 3l. 14s. per share, instead of 1l. 2s. 6d. The total amount of dividends from the starting of the company to May 31, 1878, should be (including the amount undivided) 8l. 5s. 6d. per share, and not 4l. 11s. 6d. as stated, while adding the 1l. 10s. 9d. taken from the revenue for purposes of capital, it will be found that a total of 9l. 16s. 3d. per share has been earned, as against 10l. paid by the Eureka Company.

It will be obvious that, although the two companies are working side by side under similar conditions, and have ores of the same character, unless the ores be of the same value, any comparison of profits is practically worthless, and does not prove the management to be either good or bad; take, for instance, that which was removed last year by the Richmond Company from the Potts' Chamber—this assayed only $40 per ton, whereas the Eureka Company are now removing ore from the immediate vicinity of Potts' Chamber assaying from $70 to $80 per ton. It is from this principally they are making their profits of 30,000l. per month; and it will be observed that out of a total of 500,100l., paid by them during six years, 270,000l. have been paid in the last nine months. This result must be due to the quality of the ore, and not to any superior management. One might as well compare the management of the Eureka Company during the first five years of its existence with its management during the last nine months—and say, because they have paid 270,000l. in dividends during the last nine months, and only 230,100l. during the previous five years, that their management during the earlier period has been characterised by waste and extravagance.

The average smelting cost of the Richmond Company from August, 1876, to April, 1877, was 3l. 9s. 9d. per ton of ore, not 3s. 18s. as stated, and from April, 1877, to February, 1878, 2l. 16s. 8d. The cost of fuel per ton of ore from August, 1876, to April, 1877, was 2l. 5s. 6d., not 2l. 11s., and from April, 1877, to February, 1878, 1l. 17s. 3d. So far from it being an accurate estimate of our profits to say that the Richmond Company have paid in dividends only the small sum of 241,517l., the 139,000l. undivided on May 31, and 83,000l. taken from revenue for capital, must be added, making a total of 463,517l., as against the 500,100l. of the Eureka Company. On these inaccurate statements Mr. Bayliss asks—"Is it not time to effect some reform in the administration not only in Nevada but also in this country?" and proceeds to point out "that the board should be reconstituted by the election thereto of one or two new directors."

I will here remind the shareholders that in August last Mr. Pulbrook, who was said to have an intimate knowledge of mining, was elected at the instance of the committee, and, subsequently, on the same request, the board elected, in the place of Mr. Elliott, Dr. Maybury, a gentleman of education, but who, so far as I know, does not, like Mr. Pulbrook, lay claim to any special knowledge of mining.

The committee now ask that Colonel F. G. Steuart should be elected to the board in the place of Mr. Bower. At the meeting on the 2nd inst. Mr. Bower declared his willingness to retire, if his so doing would serve the interests of the company, but a large majority of the shareholders present refused to allow him to do so; and, subject to a poll, Mr. Bower was declared to be re-elected. The action of the meeting was in no sense hostile to Colonel Steuart personally. It was felt that having mutually agreed to refer the recommendations of the committee to the board, it would be manifestly unfair to displace at this moment one of the board and elect to the body, charged by the shareholders with *quasi* judicial functions, a gentleman who was himself a party to the report upon which independent and impartial consideration was desired.

Under ordinary circumstances the polling would take place on Thursday and Friday next, the 18th and 19th inst., but I am authorised by Mr. Bower to inform the shareholders that notwithstanding the expression of opinion in his favour at the meeting he will place his resignation in my hands, in order to avoid even the appearance of division among the shareholders. The trouble and expense of another poll will thus be avoided. GEO. HOPKINS, Chairman.

Coleman-street, July 10.

USE OF THE STONEBREAKER IN CORNISH MINES.

TO THE EDITOR OF THE WEST BRITON.

SIR,—In your issue of last week I read, with much interest, an account of the meeting of the Wheal Jane shareholders, in which it was stated that they had decided on adopting a stonebreaking machine for the use of the mine. At the present low ebb of mining affairs, anyone, however slightly interested in the subject, must learn with satisfaction that attempts are being made in the direction of economical working. It is astonishing that in Cornwall, for centuries the most advanced of all mining districts, both in enterprise and intelligence, so evident an improvement as the "stonebreaker" is proved to be should have been neglected. In almost all the mining districts which I have visited abroad I have found "stonebreakers" in profitable use, even where high-grade ores could be obtained cheaply, owing to the low price of labour. If the advantages of using machine power for spalling were even questionable, one could very well understand the present hesitation on the part of our mine agents; but when a machine has long passed the experimental stage, and is in profitable use in so many other mining districts, it is to be regretted that Cornwall should be the last to carry out an economy, especially now, when every certainty of progress should be grasped at.

Capt. Southey estimates that a saving of cent. per cent. over hand labour would be the direct results of introducing a "stonebreaker;" and beyond this, that the men underground, at present employed in preparing the stuff for the stamps, could, by adopting machine-spalling, be free for other classes of work. This, one would think, is advantage enough to be gained by so simple a step; but doubtless it is mainly the prime cost which has hitherto hindered the adoption of these machines. This, however serious an obstacle it may appear, should be overcome by the knowledge that in the long run such great savings as Capt. Southey mentions is the result.

Considering the price of tin, the best policy would appear to be great production united to cheapest rates. As things stand at present these two, instead of being united, act one against the other; thus the greater the production the greater the amount lost on spalling the tinstuff; and while the price of labour cannot be reduced low enough to compete with machine power it is low enough to let the mine agents hope that they may pull through until better times without introducing "new-fangled notions." Now, were machine-spalling extensively introduced, the output could be much increased, and the work done at a lower rate (and much more effectually) than at present, and a great step made in the right direction. There is an advantage in the stonebreaker which does not appear on the surface, which is that besides doing its own work it also assists the stamps in theirs; for by its action the stuff is not only reduced to fragments, but the texture of these fragments is loosened, so that they are more easily pulverised by the stamps, whereas in hand-spalling the fragments broken off retain their original hardness. This is no small saving, both in time and in the wear and tear of the stamps.

It is to be hoped that the example of the Wheal Jane shareholders will be followed by others, for it appears to me that mine agents must have been long convinced of the benefit to be derived from the use of the "stonebreaker," their efforts having probably been restrained by shareholders, who, scared by the prime cost, have not yet taken a broad view of the subject. ECONOMY,

MACHINERY FOR CUTTING COAL.

Messrs. ANDREW KNOWLES, of Manchester, and DAVID GREIG, of the Steam Plough Works, Leeds, have patented some improvements in machinery for cutting coal. This invention has for its object improvements in machinery for cutting coal. For this purpose they use a cutting bar, mounted on a suitable carriage, travelling on rails laid along the face of the coal. The carriage is drawn to and fro by means of ropes or chains, actuated by manual or other power. The cutting bar is made adjustable by a screw or other means to the depth of cut required, and as the depth of cut increases wedges are driven into the cut to support the weight of the coal; these wedges are removed by the implement as it traverses the face of the coal, the attendant replacing them after the cutting bar has passed.

EXPERIMENTS WITH A COAL CUTTING MACHINE AT POLNISCH-OSTRAU.*

The author, in the earlier part of this memoir, reviews the construction of, and results obtained by, various systems of coal-cutting apparatus adopted in other places, before proceeding to describe the machine experimented upon, which is a modification of that by Hurd and Simpson, constructed by Slanek and Reska. The seam worked is 2·29 to 2·46 ft. thick, and has a dip varying from 11° to 17°; the coal is hard but rather brittle, making a good deal of slack. The average work of a good collier holing in this seam is from 1·8 square yards to 2·15 square yards per shift of eight hours. The machine has a cutting wheel of 3 ft. 9 in. diameter, driven at seven revolutions per minute, by a pair of engines 6 in. in diameter and 12 in. stroke, making 120 revolutions per minute, under a pressure of air of four atmospheres at the compressor, which corresponds to about 7 b.p. The cut is from 31½ to 39 in. deep, about 3 in high, and was originally intended to be carried forward at a speed of 11 in. per minute, but the hardness of the coal has necessitated a diminution of speed to 7·8, or 9·8 in. per minute. At the latter rate the surface cut per hour would be 9·68 square yards, or, for the whole shift of eight hours 77·4 square yards. This cannot, of course, be realised in practice, the maximum result, supposing the machine to be continuously at work, being from 36 to 48 square yards, or a quantity equal to the work of from 16 to 25 men. The cost of the two methods, deduced from the results of cutting 358·8 square yards, the seam yielding 255 tons of coal, was—By the machine, 2s. 8·3 10d. per ton; by hand labour, 2s. 9¼d. per ton.

The first amount includes a sinking fund charge of 3l. per week on 1000l., the cost of the compressor being taken at 400l., the machine at 400l., and the air pipes at 200l., the annual work being put at 10,200 tons. The cost of laying out a working face for the machine for a length of 328 yards rather more than counterbalances the small saving as compared with hand labour; but the actual profit is, according to the author, to be derived from the increased amount of large coal obtained, which was about 10 per cent., and on a final balancing of figures the advantage gained by the machine appeared to be about 3½d. per ton. With this there is a considerable saving in the quantity of labour required, 385 shifts being employed for all purposes when the coal is cut by hand, and 272 when cut by machine, or a saving of 30 per cent. If, however, the work employed in actual coal cutting is alone considered, the saving is about 60 per cent.

In a general review of the results, the author points out that as the advantage of machine cutting is chiefly realised by a reduction in the amount of slack made, it is only in thin and hard seams that any great saving is to be looked for, and it is precisely those seams that are least workable and must be abandoned in a season of low prices. A good roof and tolerably uniform dip are also necessary, and as these desiderata cannot always be obtained, the use of machines of this kind must necessarily be restricted. A lighter class of machine (that described weighs 35 cwt.) suited for short lengths of face, and available for use in pillar workings, would probably be more useful, even though capable of doing less work in a given time, than those at present in use. The other extreme of making excessively light machines to be worked by hand should, however, be avoided, as the power required for holing in coal, even along short lines of face, is too considerable to allow of manual power machines being successful in practice.

— By J. MAYER: Oesterreichische Zeitschrift für Berg- und Hüttenwesen.

* From JAMES FORREST'S "Abstracts of Papers in Foreign Transactions and Periodicals," for the Proceedings of the Institution of Civil Engineers.

The following reports were received too late for insertion in their proper place—

CAMBRIAN.—T. Glanville, July 6: EGGAIR FRAITH: In driving west from bottom of eastern shaft (now down 70 yards below adit) the part of the lode opened on will produce 2 tons of copper ore per yard. In the eastern end of shaft we are cutting north into the lode for plat, and when this is completed, and we have cross-cut north and south through the lode, we shall commence to drive a level east. In the 46 yard level, west of shaft, the lode is composed of carbonate of lime, intermixed with copper ore. In the winze below the 46 yard level east the lode will yield 1 ton of lead ore per yard, but a large influx of water has compelled us to abandon this point for the time being; the level, however, we shall shortly drive east from bottom of eastern shaft will effectually drain it, when we shall proceed at once with the sinking. I have now placed the men to rise in the back of the level, in which the lode is composed of carbonate of lime and gossan, and is worth 10 cwts. of lead ore per yard. The stopes in back of the 46 yard level, west of eastern shaft, are producing 1 ton of copper ore per yard.—EGGAIR-HIR: The cross cut north of adit level has intersected and been driven into the lode about 3 feet. We shall proceed to cross-cut through the lode, to see its width and character. In the level driving in a south-westerly direction from the new shaft we shortly expect to cut main part of lode seen cropping out at surface.

TALYBONT.—Thomas Glanville, July 6: In clearing out an adit level leading to the shaft we opened on the north side of mountain we have discovered a branch of lead ore in the lode 4 in. wide (solid), and hope in a short time to send you further information on this subject. All other points much as usual.

Mining Correspondence.

BRITISH MINES.

ABERLLYN.—John Roberts, July 10: We have secured the deep level about 30 fms. from the mouth, and have discovered an old cross-cut, which appears to be driven through the lode, which at present is filled up close to the roof of the level. In the bottom of the level, at the mouth of this cross-cut, we found some splendid stones of solid lead, which appear to have been lost in bringing the stuff out from there. We shall clear this out as soon as we get in the tramway. In cutting the holes in the face of the lode for the timber we have also found some nice stones mixed with lead.

BEITWS Y-COED.—H. T. Haley, July 8: Since my last the lode in shallow adit east is improved, producing some nice stones of blende and lead to the value of 30 cwts. per fathom; some splendid rocks being blasted out to-day. The deep adit is without any material alteration, producing from 15 to 20 cwts. per fathom. In consequence of the drought the water is now in the 20, so the men are removed from the cross-cut, 20 fms. north branch, to sink in bottom of shallow adit, at a point 30 fms. west of ventilating shaft, in a fine looking lode, producing 15 cwts. of good solid lead per fathom. This will come down to meet the deep adit end, and give good ventilation. The building and other surface work progressing fairly.

BLUE HILLS.—S. Bennetts, P. Bennetts, July 6: The 80 east end, on the Pink lode, is producing some tinstuff, with occasional good stones of tin. The east end on the top lode at the same level is worth 7*l*. per fathom, and the west end 7*l*. to 8*l*. per fathom. In a winze below this level the lode is worth 10*l*. per fathom. The north lode in the 30 east end is again improving, and containing a leader of good tinstuff 1 to 2 in. wide.

BODIDRIS.—H. Hotchkiss, July 10: I am pleased to say that we have intersected another joint 6 in. wide containing spar, in which is a mixture of blende ore. In the 60 cross-cut south the same has a slight underlie north, and bearing 5° more to the east than the one we are now driving upon. I am not able as yet to say whether this will prove to be the heading of the lode, but so far as seen I am led to believe the main lode is still before us; I shall see more in a day or two. The end driving east at this level, and also at the 45, are much the same in character as last week. The stope in back of 45 has slightly improved; we have broken some good-quality ore and blende from here the last few days. The stope in bottom of 30 is equally as rich; it is slightly better in bottom of stope.—Easternmost Shaft: Progress here in sinking is satisfactory; the shaft is now all in maiden ground, with a very promising lode 10 in. wide, from which we have broken some beautiful cubes of lead ore, and have every confidence that this shaft will be the means of opening out fresh runs of ore of great importance.

CARGOLL.—John Jennings, July 9: The 44, west of Bowyer's shaft, on the caunter part, is extended 3 fms. 3 ft.; the lode is 2 ft. wide, and here it appears to be a little disordered, being mixed with more killas than usual, yet I think there is a fair chance of an improvement as we advance westward a few fathoms further under the dip of ore ground from the level above. At this level east, on the south lode, we have driven 8 ft.; this lode is underlying rather flat at present, and as yet unproductive. The 34 east, on the north branch, is still large, producing occasionally good branches of lead ore, and is very promising for an early improvement. The 34 cross-cut north, from the south lode, 53 fms. west of shaft, is driven 3 fms., and has cut through the north lode; here the lode is split by a small horse of killas; we have just begun to open west on its course; as yet it is without lead, but by extending a few fathoms in this direction probably we shall meet with the shoot of lead gone down in the winze in the 24, 17 fms. further west, which shoot appears to be dipping east towards this end. The lode in the winze (referred to above, and sunk 9 ft.) in the 24, east of Doctor's shaft, is 1 ft. wide; it produced up to the present time ½ ton of good lead per fathom; to-day it does not look quite so well, but this may only be temporary. There is no particular change to notice elsewhere.

CLEMENTINA.—William Bennetts, July 10: There is nothing new calling for any remark since last week's report. The shaftmen have been engaged with the carpenter repairing the water wheel and the whim shaft. If the directors have arranged to erect the 60-ft. wheel, which I hope they have done, I should be glad to have word by return, so that we may put the shaftmen to cut down the ground in the engine-shaft so as to fix the large lift while the present wheel is idle for want of water.

COMBMARTIN.—T. Comer, July 11: The lode in the 15, driving east of Harris's shaft, is from 4 to 5 ft. wide, containing capel and quartz, with good silver-lead and blende; this is a strong and masterly lode, and seeing the present end is only 10 fathoms behind the orey back opened on at surface we may expect a good lode of silver lead in this end shortly. Fair progress is being made in driving the adit cross-cut north; the present end is in a good channel of ground for the production of silver-lead. We are expecting to intersect the north caunter lode daily.

COURT GRANGE.—James G. Green, July 7: I am very pleased to be able to state that the lode continues productive in the 30 end driving east, worth fully 1 ton of silver-lead ore per fathom. The importance of this discovery will be understood when it is known that between the 30 and 14—both of which levels are being driven into virgin and untried ground—there is about 17 fms. of backs to stope away, so that every fathom driven in productive ground in the 30 in reality gives us 17 fms. of reserves. In the 14, as may be gathered from previous reports, we have driven through an almost continuous course of ore 30 fms. long, and the end is still productive. Again, we have a winze going down in the sole of this level in a rich lode; present depth 35 ft. Over the 14 there is about 28 fms. of backs up to surface; so that little fear may be entertained as to supplies of ore-stuff for the splendid dressing-plant erected. The No. 2 stope, west of footway, in the back of the 14, in places will yield 2 tons of lead per fathom. Every effort is being made to get our construction account closed.

DE BROKE.—J. Phillips, July 10: In Wilson's shaft, sinking below the 45, there is no change in the lode to report. The 45, east of Wilson's, has come upon a branch of spar, containing spots of ore; the driving will now be altered to prove another part of this wide lode. The 35 is unproductive, and is suspended for the present. The lode in the 25, driving east, is more divided by spar courses than usual, and the yield of ore has receded to about 1½ cwts per fathom, but still the lode is very strong and congenial. The stopes are producing stuff of very fair quality. The surface water supply has very slightly increased. I could sample 15 tons of lead ore on Saturday next, or 18 to 20 tons if we get rain.

D'ERESBY CONSOLS.—J. Roberts, W. Bennetts, July 10: We are getting on as fast as we possibly can with the tramway in the deep level. We have been delayed by being obliged to cut down some corners in the sides of the level to bring on the road. Owen's lode is without any particular change. There is a nice leader of blende on the footwall, which is a good forerunner of lead.

D'ERESBY MOUNTAIN.—J. Roberts, Wm. Bennetts, July 10: No. 1 lode is pinched up for the time being by a hard rock, but we believe that it will shortly open out again. No. 3 lode is worth 1 ton of lead to the fathom—a fine-looking lode. The Gorse lode in No. 4 holds its value both for lead and blende. We have made a communication to-day between No. 5 level and No. 3 shaft, and we hope now to make better progress. We have put the crusher together, and are waiting for the contractors to put up the water-wheel.

DENBIGHSHIRE CONSOLIDATED.—R. Prince, A. Francis, July 11: Good progress is being made in extending the permanent level east and west. At Parry's we seem to be getting into similar ground to that we have in the 66, so I am expecting to send you good new from this point. In the 66 west I am glad to say that we have secured ventilation, and are now driving west, and there appears to be plenty of ore ground with us, so we have every reason to expect good results. The tribute pitches are looking fairly well.

DEVON GREAT CONSOLS.—I. Richards, July 11: Wheal Emma, Thomas Engine shaft: At the 216 the men are still engaged repairing the air-sollar in the bottom of the level, which we hope to finish in about another week from this time, when driving east will be again resumed with all possible speed.—Inclined Shaft: In Friend's cross-cut south, at the 137 east, the ground is mineralised, and has become a little wet, from which indications we judge that the new south lode is near at hand.—New Shaft, New South Lode: In the 190 east the lode (5 ft. being carried) is composed of capel, quartz, and copper ore, worth 2 tons or 6*l*., and 2 tons of mundic per fathom. In the 190 west the lode (part carrying 6 ft. wide) is of a very fine description, being composed of capel, quartz, peach, and copper ore, worth 5 tons, or 15*l*., and 5 tons of mundic per fathom. In the 175 west the lode is 3 ft. wide, composed of capel, quartz, and copper ore, worth 1 ton, or 3*l*., and 3 tons of mundic per fathom. In the 100 east, in the south part of the lode, the lode is 4 ft. wide, worth 1 ton of copper ore and 4 tons of mundic per fathom. There is no alteration to remark upon at any of the other points of operation throughout the mines.

DUBBY SYKE.—W. Tallentire, July 5: We have a very nice vein in the working west of rise; it is soft, and producing considerably more solid lead ore. At this side of rise where we began to drive it produced 8 cwts. of lead ore per fathom; it has been rather poorer these last few shifts, until to-day it has improved greatly, and looks well. We commenced to drive on the vein east at the random of top wagonway to lay open ground for stoping. We shall now begin to dress ore very shortly.

EAST CHIVERTON.—Richard Southey, July 11: I am very pleased with to-day's inspection. The lode in the 74, west of engine-shaft, is 3 ft. wide, and worth fully 1¼ ton of good quality lead per fathom. This has surpassed anything that I have seen since I became connected with the mine. The lode in the bottom of the level going down is looking even better than it is in the breast of the end, and is letting out a good stream of water. Being late for post I will report more fully how it is looking next week. No lode yet in the 64 cross-cut south of the engine shaft.

EAST WHEAL LOVELL.—R. Quentrall, July 10: There is no alteration at Fatwork since my last report. In the south ground the lode in the south shaft is larger than it was, being now 4 ft. wide, containing tin throughout, and of a very promising character for the depth; sinking by nine men, at 8*l*. per fathom. The lode in the north shaft is about 1 ft. wide, containing a little tin. There is a branch falling into it from the north which also contains tin, and from present appearances in a few feet further sinking these will unite, when an improvement may be met with. The shaft is being sunk by nine men, at 15*l*. per fathom.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., July 6: The lode in the 117, east of engine shaft, is laid open 5 ft. wide, showing a leader part of mundic and ore 6 in. in width. The lode in the winze and stope in the bottom of the 105 east is worth 30*l*. per fathom. The lode in the rise and stope in the back of the 105 is worth 15*l*. per fathom. The lode in the winze sinking below the 95 east is worth 9*l*. per fathom. All other points are without change.

GLASGOW CARADON CONSOLS.—William Taylor, W. J. Taylor, July 9: The sinking of Elliott's shaft is progressing favourably; we have set in one bargain the 8 fms. to sink to make the required depth for the 102 fathom level; this bargain the men are pushing on as fast as possible. In the 90 west the lode is not looking so well, but rather disordered, now worth about 6*l*. per fathom. This level east we are expecting to hole to the winze from the 78 in a very short time; the lode in the end is worth 6*l*. and in the winze from 12*l*. to 14*l*. per fathom. The 90 east, on south branch, is opening out profitable ground, worth from 6*l*. to 8*l*. per fathom. No change of importance in the 78 or midway east since last report. The stopes and pitches throughout the mine continue to turn out about their usual quantities of ore, and about the same value. We hope to complete the tramroad from new shaft to floors next week; this will pretty well finish up our surface work. We sampled yesterday (computed) 200 tons of copper ore, which will be sold on the 18th inst.

GORSEDD AND MERLLYN CONSOLS.—W. Edwards, July 11: The shaft is sinking better than expected; it is down 16 yards. In the bottom level west we have cross-cut 2 yards, and I think have discovered another lode, but we can say no more of it in a day or two.—Dressing-Floor: I think we shall have from 35 to 40 tons of blende ready next week, and a further lot of lead ore for sampling.

GREAT HOLWAY.—July 11: The stream of water that has been issuing from the 80 has caused us much inconvenience and delay since the date of my last report, but as a set-off to this there can be no doubt that we have made a great discovery, and that we have a good run of ore before us.—Roskell's Shaft: We have No. 2 drill delivered, and we shall try it at once.—Garden Shaft: We are expecting to complete the communication here daily, and we shall have I think a fine piece of ground to work upon. I think my next report will be very satisfactory.

GREAT LAXEY.—W. H. Rowe, July 10: The lode in the bottom of Welsh shaft continues strong and regular, but, as might be expected at this point, shows only occasional patches of ore. There only remain a few feet more of sinking to be deep enough for the new level. The 235 end north is still being driven on the side, and carrying only a small part of the lode, from which we can see it continues fairly productive, and probably similar in value to the nearest stope, where there is the whole width laid open, and worth at present 35*l*. per fathom. The other stopes above this level are turning out their usual quantities of ore-stuff. The 220 end north is not yet through a hard bar of ground which has temporarily impoverished the lode, but the winze sunk in advance from the level above shows it is bound to improve. It will be remembered that owing to its proximity to Dumbell's shaft we are not now driving the 210 north, which ground can be worked to better advantage from that side. The stopes over this level have improved, and worth about 30*l*. per fathom. No other change to notice in this section of the mine.—Dumbell's: Fair progress is being made in the sinking of this shaft, now over 11 fms. below the 215. We have resumed the driving of this level southwards, where the lode is worth 30*l*. per fathom. The 215 north has been of diminished value since last reported upon, but is again improving, and worth fully 35*l*. per fathom. The lode in the 185 fathom level end, now clear of slide, is resuming its former productiveness, and worth 25*l*. per fathom. The 170 fathom level end is at the present time in contact with the same slide, and the lode consequently disturbed. There is no change in the 155 end. In the 140 a large part of the lode not carried in the driving shows strong ore, which we shall shortly prove. The 110 end north continues to look increasingly promising, and now worth for ore 10*l*. per fathom. The lode is getting stronger, and of the right character for a fresh run of ore; the further opening into this really virgin ground will be looked forward to with unusual interest. There is nothing fresh to notice in reference to the stopes throughout this part of the mine, except that its generally improved appearance warrants the expectation of an increased output in the future. The stopes over the day level average for ore about 20*l*. per fathom; in easy ground for working. No change of consequence in the south ground part of the mine, except in the rise in the 165 south, where the lode has improved, and now worth 20*l*. per fathom.

GREEN HURTH.—W. Vipond, July 5: The working below the adit is yielding 4 tons of ore per fathom, but we are fast working through the best of this. All the other workings in the mine continue as last reported. We have not quite a wagon of ore dressed this week, about two bings short; we should have managed it had we not been short of water for dressing.

HARWOOD.—W. Tallentire, July 5: Hardship level north, on No. 2, is progressing very well; no change to notice. In No. 4 south end the men have been this week taking up the poorer portion of the vein, which is producing balls of solid lead ore. We sent off this week eight bings of lead ore. North on No. 4 is an important point, which I think is worth consideration; the vein at present is standing poor, but a few fathoms driving would probably improve it, so that an ore bargain could be set: 14 fathoms have been driven and stoped in this direction, which yielded about 20 bings of lead ore, and I think it should be further tried.

HINGSTON DOWN CONSOLS.—T. Richards, July 11: Bailey's Shaft: In the 172 east the lode is without important change, worth 15*l*. per fathom. The stope in the back of the 172 east is worth 18*l*. per fathom. In the 160, west of Nicholl's winze, the lode is worth 5*l*. per fathom. At the deep adit the timbering is completed and the railway laid. The air-pipes are now being fixed, and in the early part of next week driving the level will be resumed towards the productive lodes now being worked on in the Clitters Mine, adjoining.

KIT HILL TUNNEL.—H. Bennetts, July 12: There is no change in any of our points of operation worthy of remark.

LADYWELL.—A. Waters, July 11: The 16, south of new shaft, is in a lode 4 ft. wide, worth 1 ton of lead ore per fathom; this end is now past the forebreast of the adit, and we are leaving a good lode in the roof, which speaks well for the upper level. There is a change of ground for the better in the adit end, and I am looking out for a continuation of the ore ground above referred to. The new shaft below this level is at present in a twitch, and ground hard. The 20, north of the said shaft, is wet, and we are looking out for a softer and more productive lode. There are four pitches at work, at 5*l*. per ton of dressed ore. We are preparing for the next sampling.

LIVINGSTONE CONSOLS.—W. Vivian, July 11: In the 40 driving west the lode continues to open up very satisfactorily. We have several fathoms to drive at this point to get under the ore ground in the levels above.

MELLANEAR.—John Gilbert, July 10: The lode in the 40, west of rise, west of the skip shaft, is 2 ft. wide, and producing good stones of copper ore. Gundry's shaft is now down 12 fms. 2 ft. below the 90, and we have discovered a part of the lode in the shaft for about 2½ ft. wide, of spar, mundic, and good stones of copper ore; the principal part of the lode is still standing, but we calculate by sinking about 4 ft. deeper, where we intend to start our 100 fm. level, that all the lode will be in the shaft. The lode in the 90, west of Gundry's shaft, is 4 ft. wide, and worth ½ ton of ore per fathom. The lode in the 80, west of shaft, is 3 ft. wide, and worth 2½ tons of ore per fathom. The lode in the 70, west of shaft, is 4 ft. wide, and worth 2 tons of ore per fathom. The lode in the 60, west of the shaft, is 4 ft. wide, and worth 3½ tons of ore per fathom. The lode in the winze in the bottom of this level is worth 2½ tons of ore per fathom. The rise in the back of this level is also worth 2½ tons of ore per fathom. The lode in the 50 fathom level, west of the shaft, is 3 feet wide, and worth 2½ tons of ore per fathom. We have communicated the 40 between the Nos. 1 and 2 rises, and have commenced to drive the 40 west of No. 2 rise in a lode 4 ft. wide, and worth 4 tons of ore per fathom. We shall begin another rise this week in the back of the 40 in a lode worth 5 tons of ore per fathom. We are making very good progress in the 30 cross-cut south of shaft; the ground is very favourable, and will stand without timbering, and I expect that the men will drive over 10 fms. this month. The lode in the 100, west of the skip-shaft, is still spotted with mundic and copper ore, but nothing to value. The end is getting much wetter as we advance, which is, I think, a favourable indication. We expect to sample next Tuesday about 400 tons of copper ore.

MONYDD GORDDU.—J. G. Green, July 10: We have had showers of rain, but not sufficient to enable us to fork the two bottom levels; I have put two men to drive east from the winze about 4 fms. above the 24; the lode at this point will yield 1 ton per fathom, and as the ground below this point is of a very loose nature, I intend securing by timber and stoping from the roof of this intermediate level. The 12 junction stope by, four men, is within 4 fms. of the sole of adit level; worth 1 ton per fathom. The 12 west stope on main lode, by four men, is worth 12 cwts. per fathom. At surface I am glad to say we have got the stonebreaker into position, and I think we shall now have the floors completed against your visit and the dressing of ores for market recommenced with vigour.

MORFA DU.—T. Mitchell, July 11: The bottom end is still in the hard quartzite rock, which we find rather hard and difficult for cutting. The driving will naturally be slow until we get through this hard bar of ground.

NEW SOUTH MERLLYN.—R. Rowlands, July 11: The tribute pitches are much the same as last reported, and the men are doing fairly well.

NORTH CORNWALL.—Thomas Doidge, July 8: North and South Lode: The lode in this end is about 12 in. wide, and of a promising character. This lode is letting out water freely, which is strongly mineralised.—Caunter Lode: Here we have an improvement; the lode has been disordered by a slide, but I am pleased to say it is now in a more settled state, and there is at present a branch of mundic in the lode about 6 in. wide, and occasionally good stones of lead.

NORTH LAXEY.—J. Sowden, July 10: In the 84 end the lode is steadily increasing in size, and improving in value; it is fully 18 inches wide, and worth 15 cwts. of lead per fathom. The new stope in the roof of the 84, south of the shaft, is worth 15 cwts. of lead per fathom. The 84 roof stope, north of shaft, is worth 15 cwts. per fathom. The 73 roof stope is worth 10 cwts. per fathom. The stope in the sole of the 64 is worth 10 cwts. per fathom.

NORTH TRESKERBY.—John Nancarrow, Alexander Nancarrow, July 9: The sinking of Doctor's engine shaft goes on very well, and the men are making fair progress; the ground is similar to that in other productive mines in the neighbourhood. The lode in the 12 east is 6 ft. wide; it is softer, contains more friable quartz, and more ore than for some time past. There is a leader of ore on each side of the lode in the 12 west, which yields 1 ton of ore per fathom, and its appearance altogether is very promising. The stope above the 12 yields 1 ton of ore per fathom. The ground in the adit west is favourable, and we are now preparing pipes to ventilate this level. The pitches at East Downs are improving. We commence drawing ore from them to morrow.

PANT-Y-MWYN.—Thomas Hughes, July 8: Since my last report we have cut a fresh run of ore in the 10 east on old lode. The new lode is about the same as stated in my last report. We have four men driving the 15 east so as to open out the ground for stoping from the 10, where the lode for many yards long is 2 ft. wide, solid ore. When we commence stoping here we shall be getting a lot of ore from this part alone. We continue to drive the cross-cut north at the adit level with four men, and have 40 yards more to drive to cut the lode, and we expect a good lode here, as this lode was very productive in the old Pant-y-Mwyn; if our expectations are realised we shall have a large mine here, as the deep adit is 50 fathoms from surface. The prospects in the cross-cut south are good, having gone through several strings of ore, which augurs well for a good lode when it is reached. We have commenced to sink Modlyn shaft by four men, and by sinking 12 yards from present bottom shall reach the lode. At this point we expect to have a rich run of ore ground, the same having been proved by sumps sunk from the adit, and the water kept by hand pumps being worked in a very crude way. The pumping and drawing engines working well, and the dressing machinery answering the purpose first-class.

PARACOMBE.—C. H. Maunder, July 10: The No. 1 lode still maintains its full size and value, being worth fully ½ ton of rich silver-lead ore per fathom, and west this lode is opening out remarkably well, being composed of quartz, copper, mundic, blende, and silver lead. On Monday we commenced to drive the deep adit level to intersect the No. 2 lode, which it is believed will be as profitable as the No. 1 lode.

PARYS MOUNTAIN.—T. Mitchell, July 11: The ground in the 90 south is getting more intermixed with mineral as we advance forward. The joint in the forebreast is producing some good stones of copper ore and sulphur. Better progress is now being made in the driving.

PATELEY BRIDGE.—C. Williams, July 11: The Rake vein, in the 30 east, has further improved, worth at present 2 tons of rich lead ore per fathom. Nos. 1 and 2 stopes, in the back of the same, are also looking well, and producing on an average 1½ ton of lead ore per fathom. Tribute pitches, and all other points producing ore, as for some time past. The new bellows have been fixed, and give entire satisfaction. Smelting is now being carried on with all dispatch. All machinery in good working order.

PENHALLS.—S. Bennetts, P. Vian, July 6: The south part of the lode in the 70 east end is worth 6*l*. per fathom, and in the west end, on the same section of the lode, it is worth 12*l*. per fathom. The north part of the lode in the 60 east end is worth 7*l*. per fathom, and in the 55 east, on another section of the lode, it is worth 5*l*. per fathom. Elsewhere there is not any material alteration to notice.

PENNANT.—July 11: The 113 yard level is in a nice open lode, composed of carbonate and small lumps of lead, and fully 2 ft. wide; I am satisfied we shall soon have a favourable change, as there is a great stream of water issuing therefrom. The 80 west is making good progress. In the 80 cross cut the lode cannot be far off; a rise in the ground has no doubt had something to do with an alteration in the dip of the lode. The stopes in the 80 are producing great quantities of mineral, and those in the 60 not so much carbonate, but seems to be getting into more orey ground. The lode in the 20 is well defined and improving. The adit level we have cleared nearly 200 yards, and I firmly believe we shall find that the lode at this point is quite different to that being worked in the 113. There is general improvement noticeable throughout the mine.

PLYNLIMMON.—John Garland, July 11: Owing to continued drought I was unable to measure and let the underground bargains as usual on Friday last, hence I cannot send you setting report this week. The majority of the men have been employed about the embankment of our reservoir, which I am pleased to say is almost completed; we have still to level the embankment and widen the new outlet to enable us to continue operations throughout a longer drought than that just passed. I am pleased to say that we have this day some very heavy showers of rain, which is making water very rapidly, and will I hope be of sufficient duration to fill our reservoir. All well I hope to forward setting report early next week, by which time I expect the mine will be all in fork.

PRINCE OF WALES.—John Andrews, July 10: In the deep adit, west of Vigar's shaft, the ground is harder, but the lode is without change.

ROMAN GRAVELS.—Arthur Waters, July 11: The 110, north of new south engine-shaft, is going forward in a wide and strong lode worth 1 ton of lead ore per fathom. The 110, south of shaft, is also in a fine looking sparry lode worth 1 ton per fathom. The winze below the 95, north of caunter lode, north of said shaft, is going down on a lode worth 2 tons per fathom. The 95, south of shaft, is in a lode 4 ft. wide, worth 4 tons per fathom. The 80, south of shaft, is in a wide and sparry lode, the yield of lead ore being 2½ tons per fathom. The 65 south is now worth 3 tons per fathom, and looks like improving. There is a good orey lode in the 50 south, but we are rising in said level for stopes, and have commenced driving the 40 with a view of getting it into the ore ground, and then sinking from said level to the stopes coming from the 65, and in that way obviate the necessity of driving the 50 end. There is yet no sign of shale in either of the ends going south of shaft. There are at work in the different levels from the 95 to the 50 fm. levels 22 stopes, which are worth together 45 tons lead ore per fm. Our usual sampling of 180 tons lead ore takes place next week.

ROOKHOPE.—Thos. Davidson, July 11: All the workings over the 42 continue about as reported last week, with the exception of where the eight men are working vein sides down old sump; but, considering the character of the mineral, I am in hopes it may improve again shortly. In the contrary end west we have had some fair orey ground in all the driving, and as we are now some distance from the old sump as soon as I have hands to spare I shall put another rise up from the 42, and prove the ground between. We have ore in this drift sole worth looking after. In the adit level I have commenced this week, four men to drive east and west from the old rise top that I run out, and as far as driven both look well. When I was in this morning the west end was producing ore that I calculate would yield three bings (24 cwts.) per fathom. The other end poorer. I have started these drifts at the bottom of sill—White Hazel—so I hope we shall find still better ore above us. Of course, not much is done in one week, but so far I am satisfied with appearances. The new rise further back has been very poor, but I do not anticipate we shall find much ore until we get further up—at about the same random as the eight men are driving—about 4 fms. yet. I am sorry to say the continued dry weather is telling very much upon our ore dressing. We have not sufficient to serve our purposes during the day, so that it is impossible to do anything at night. It is looking more dull and gloomy to-day, and I trust rain will come soon.

SAINT PATRICK.—Wm. Francis, July 10: The cross-course in the 120 yard cross-cut north shows strong evidence of nearing a vein, and the compounds are those usually found when near the junction. In the 60 yard cross-cut the chert is of the best bearing kind, and across the driving we are now meeting with east and west joints, which I think will prove feeders to the main vein before us.

SOUTH CAMBRIAN.—A. Francis, July 9: The lode, or rather the portion we are driving on (5 ft.), is improving every foot we advance, and as the ground rises very rapidly going eastward from our present forebreast in the deep adit, we may at no distant date expect that the rich blende we are now getting will give place to lead ore. Good progress is being made in preparing the adit to lay down the railroad through it, and everything required to do so will, we expect, be delivered at the mine this week.

SOUTH CONDURROW.—W. Rich, W. Williams, H. Abraham, July 10: The lode in the 40 end west is improving, now worth 8*l*. per fathom. The 40 east is worth 6*l*. per fathom. We are forcing on the 50 cross-cut, north of the Plantation shaft. The 50 end, west of the cross cut, is worth 8*l*. per fathom. The 50 east is worth 7*l*. per fathom. A winze in the bottom of this level is worth 10*l*. per fathom. The 70 end west is worth 6*l*. per fathom. A rise in the back of this level is worth 9*l*. per fathom. The 80 end east yields a little tin. The 93 end west is worth 9*l*. per fathom. The 93 east is worth 12*l*. per fathom.

SOUTH DARREN.—Henry James, July 11: The water is not forked out of the shaft yet. We have to-day disconnected the engine and connected the wheel to pumping, being unable to fork the water with the engine. The engine will now be used for crushing and dressing; the water is still short for dressing purposes. In the 90 forebreast we have commenced to take down the lode, as far as seen it looks exceedingly well; present value 35*l*. per fathom. The lode in the 90 winze is worth 35*l*. per fathom. No. 1 stope, in the back, is worth 28*l*. per fathom. No. 2 stope is worth 30*l*. per fathom. No lode has been taken down in the 100 west for some time. No. 1 stope, in the back of the 80, is worth for lead and copper ores 20*l*. per fathom. No other change worthy of remark. The 40 tons of silver-lead ore sold on the 5th inst. realised 615*l*.

SOUTH MOLTON CONSOLS.—T. Harris, T. May, July 11: The ground in the adit level cross-cut is now of a grey character, but favourable for driving, and we are pleased to say the men are making satisfactory progress.

SOUTH ROMAN GRAVELS.—July 11: Shelve Deep Adit: The branch or lode in No. 2 end north maintains its course and underlies, and is now quite 4 in. wide, all carbonate of lime. We have seen no lead in the last 6 ft driving, but there is a little water coming out of it. The end is driven north from cross cut 11 fms. 4 ft., and is re set to four men, the month, at 6*l*. per fathom.

SOUTH TOLCARNE.—W. Rich, J. Knotwell, July 10: The lode in the 24 west is opening out wider as we leave the influence of the cross-course, and carries good spots of copper. The ground is easy for driving in the 38 end east, and the lode looks promising to improve.

TANKERVILLE.—A. Waters, July 11: Watson's shaftmen are sinking for fork, and preparing to fix drawing lift at the 206, or bottom level. This will be completed and the casing and dividing of the shaft connected sometime this week. We hope to send the machine kibble to the bottom, and be in regular working order there on Wednesday next. The plat is cut, and the 2 6 cross cut driven south 10 ft., and it is calculated that 6 ft. further driving should about reach the lode. In the present cross-cut end there are several branches bearing north and south, which are worth together 1½ ton of lead ore per fathom, and look like feeders to the lode. There is a strong flow of water from the said branches, and the inference is that the main lode will show a large cavity opposite the said cross-cut. We are strongly of opinion that a good run of ore will be cut into here directly. Every effort will be used to get if possible into the great lode by the end of the next week. No. 1 winze in the 192, east of shaft, is down 7 fms. 4 ft. 2 in.; lode worth 1½ ton of lead ore per fathom. We may expect a much richer lode to come into this winze from the east as depth is attained. One bunch worth 3 to 4 tons per fm. already dipped through the winze westward. The No. 2 winze in this level east of shaft is down 3 fms.; lode worth 1 ton per fathom. We expect to see an improvement in this winze also as we go down. The 192, now 26 fms. west of shaft, is into a strong orey lode, worth 2½ tons per fathom. This is a new bunch, and being in the line (calculating the usual dip) of the great deposit seen from the 62 down to the 142 fm. level, we are watching its development with considerable anxiety. There are seven stopes at work, by 26 men, yielding together 7¾ tons per fathom. In the 120 west—a pioneer level—the lode is worth ⅝ ton per fathom. The 92 cross-cut, south from old mine, is not yet into the No. 2 side lode. The winze in the 62, on the south lode, is worth 1½ to 2 tons per fm. We have nine pitches at work, by 18 men, at a tribute varying from 4*l*. 10s. to 8*l*. per ton of dressed ore.

TEESDALE.—J. Slack, July 3: North End Forehead: Most of the strength of the vein and ore has gone through the side into the east branch in separate leads about 5 ft. apart, where we shall intersect them, and no doubt have a rich mine. The forehead itself is much poorer, although it has the same red kindly appearance it had before. I do not intend working any dead work when I can possibly avoid it, and if this working does not improve within a week I shall set the men on stoping the roof wherever it is payable, and after that is finished I will set them to sink immediately behind the forehead.—North End, East Branch: The vein seems to continue forward as good as when last reported. Six men were set on Thursday to drive the horse level in a ter this branch, and they only fired two shots when it opened out and some good specimens of lead ore were got. I have let these men a bargain at 30s. per bing to work eight hours shifts and keep it going the 24 hours. I have explored the Old Man as far as possible, and got much further than anyone else has ever been, and still there was no sight of coming to the end of his operations. The further it goes the better I like it, as it shows it has had something worth going for.

TEMPLE.—July 10: The No. 1 level driving west, by six men: the lode is wider than the level, and is composed of clay-slate full of bands of spar, and increasing in the production of blende. The ground is hard, and the progress, therefore, slow, but from the quantity of water and the general appearances we are approaching the lead-bearing ground found in the level above. The No. 2 level driving west, by six men; the end presents the lode of better character than has previously been seen. It is opening out with bands of spar and lead through it. There is one leader here with solid lead 2 in. wide, and other branches of less value. The No. 3 level driving west, by six men; the lode here is opening out wider, but there is no change in its produce or value. Surface operations progressing rapidly. The leat and wheel pit will be ready in the course of six or eight weeks for the erection of water-wheel and crusher, which are being prepared at rapidly as possible.

TOLGUS CONSOLS.—W. C. Vivian, July 11: We have not yet reached the lode in the 40 cross-cut, but there is more quartz in the rock, indicating, we hope, its near neighbourhood. The rock is a little easier for driving than it was at the beginning of the month, and is impregnated with copper ore.

TYN-Y-FRON.—E. Jones, July 10: We are still cutting open and squaring the main cross cut, which, from the tightness of the ground, has taken us longer than we had anticipated. We are, however, rewarded by proving the existence of a splendid south lode, rich for blende, spotted with lead, copper, and sulphur. The last few feet having shown good lead, good enough to keep by itself to show you or any of your friends, and when we have completed this work, which we hope to do in another week, we shall be able to estimate the value of the different metals contained in the lodes through which we have passed, and which we think will give you satisfaction.

WEST CHIVERTON.—R. Southey, July 11: Batter's Engine shaft: This week we shall reach the 170 at this shaft, and the men will at once commence to bring down skip road and cut plat preparatory to opening west on the course of the lode. The lode in the 160, west of shaft, is 2½ ft. wide, producing occasional stones of lead ore.—North Lode: In the 160 fm. level, west of cross-cut, the lode is 4 ft. wide, and worth for lead and blende 8*l*. per fathom. In the end east of cross-cut the lode is 3 ft. wide, worth for lead and blende 15*l*. per fathom. In the 150, east of Batters' shaft, the lode is 2½ ft. wide, worth for lead 8*l*. per fathom. In the 130, east of shaft on north lode, the lode is 4 ft. wide, and worth for lead and blende 15*l*. per fathom. In the 100 cross-cut north there is nothing new since last reported on.—Hawke's Shaft: In the winze sinking below the 140, west of this shaft, the lode is 3½ ft. wide, worth 12*l*. per fathom for lead. The lode in the 140, east of Hawke's shaft, is 2½ ft. wide, and worth for lead 5*l*. per fathom. Our surface operations are being carried on in much the usual manner.

WEST CWMYSTWITH.—J. Davis, July 8: The winze in No. 2 lode is down 5 fms. 2 ft., and is going down in a strong and well-defined lode. For the last 6 or 7 ft. we have had more blende than lead ore out of it, but as we are not carrying all the lode we cannot ascertain its full value for lead ore. In about another six weeks time the winze will be deep enough to drive east and west on the lode, which can be then taken away at a profit. In the cross-cut to No. 3 lode we have intersected a strong branch of No. 3 lode, bearing 15° east of the line of the cross-cut. We are now following this branch, and after a few fathoms more driving we expect to cut the No. 3 lode under the point where a good branch of ore was found upon it in No. 1 level. In Fleming lode we have about 3 fathoms more to drive before we intersect the point we have been driving at. The Bog adit is not

out of the hard ground referred to in last report. Within the last week we have found several more boulders of lead ore in our north boundary brook, which sufficiently proves that there must be a strong and rich lode in the northern part of the sett, and which has been only very slightly proved as yet.

WEST GODOLPHIN.—John Pope, July 10: No. 2 winze in the 60 west, on Wilson's lode, is communicated with the 70: the men who were rising have resumed driving the 70, and the men who were sinking have commenced to stope some of the end of the winze for putting in a shoot. I am thinking we shall communicate No. 1 winze in the 60 east, on Wilson's lode, with the 70 this week; the lode continues to look very well in the side of the 70 west. The other places are just as they have been for some time past. I will forward full report in time for the committee meeting on Tuesday next.

WEST PEEVOR.—W. T. White, July 10: Mitchell's engine shaft was set on Saturday last to six men, for the month, at 9l. per fathom. The lode in the shaft continues productive, and appears to be opening out larger as we go down. I consider the prospects here very good.

WEST ROSKEAR.—H Stephens, W. Bennetts, July 11: The men will complete cutting ground, putting in penthouse, &c., both at Stephen's and Lanyon's shafts, in order to commence sinking the said shafts in a day or two more, and thereby open out ground so as to increase our returns of tin ore. We shall finish taking up the old house lift rods from the whim-shaft at the sump to day, and then prepare for drawing the stuff with the steam-whim. We shall get this ready as quick as possible, as but little can be done at the 24 until that is accomplished. The new engine is working remarkably well, and everything in the mine progressing satisfactorily.

WEST TANKERVILLE.—A. Waters, July 11: The 86 south is worth ¾ ton of lead ore per fathom. The stope south of the winze, south of the shaft, is worth ¾ ton per fathom. The stope north and south of the rise, south of the above winze, is worth 1 ton per fathom. The stope in the 75, south of winze, is worth ½ ton per fathom. The stope in back of the drift, on the hanging wall part, is worth 1 ton per fathom. The stope on the same lode, in the bottom of the drift, is worth 1 ton per fathom. The drift just below the 63 south is worth 1 ton per fathom.

WEST WHEAL TOLGUS.—July 10: The lode in the rise in back of the 145, west of shaft, is 4 ft. wide, yielding 3 tons of ore per fathom. The lode in the end, driving west from the cross cut, on the south part, is 8 feet wide, yielding 3½ tons of ore per fathom. The stopes in the back of the level are producing equal to last report—4 tons of ore per fathom each. The lode in the rise in the back of the 135, west of the shaft, is split into branches, with stones of ore, but nothing to value. The lode in No. 2 winze, below the 135, is 8 ft. wide, yielding 2 tons of ore per fathom; we calculate on holing it to the rise by setting-day—next Friday week. The stopes in the back of the 135 are just the same as last reported. The lode in No. 6 winze, below the 125, is 18 in. wide - poor; we hope to put this winze through to the rise from the back of the 135 also by setting-day. At Richard's shaft the lode is large, with stones of ore and mundic; the lode is more perpendicular than it has been, consequently a part of it is left standing to the south. When the shaft is deep enough for the next level (which is only 3 or 4 fathoms) we can lay open the lode to a better advantage than carrying it down so wide.

WHEAL AGAR.—Edward Moyle, William Hambly, July 11: During the past month the shaft has been sunk 1 fm., some slight breakages having interfered with our greater progress; the shaft is now down 6 fms. 4 ft. below the 205. The stope north of the shaft continues of a masterly size, and equally as rich as at any former time; worth from 80l. to 100l. per fathom. The 205 east has been driven 1 fm. 2 ft. 6 in. This end having passed through a small slide the lode, especially on the south side, is good for tin; worth 15l. per fathom, and of a most promising appearance. The rise in the back of the 185 is up 10 ft. The rise in the back of the 80 for new shaft will probably be holed in a few days with the winze below the 48. The new shaft is down 6 fms. below the 25, sinking at 12l. per fathom by three men. The surface works at tin floors are progressing.

WHEAL GRENVILLE.—T. Hodge, July 10: Goold's shaft is below the 150 on the old lode, about 5 fms., the ground in which is moderate for sinking. The 140 east end is opening out stoping ground worth 8l. per fathom. The 140 west end is looking more promising than for some time past.—Western Shaft: The 160 east end is worth 7l. per fathom: we have about 6 fms. further to drive to get under the shoot of tin gone down in the level above. The 150 east end is looking more encouraging; it is opening out wider and more productive for tin. The 140 east is worth 6l. 10s. per fathom. The 130 east end is producing occasional rich stones of tin. The stopes on the whole have not improved since my last. The machinery is working very well, and all surface work is being pushed forward with the utmost dispatch.

WHEAL KITTY (St. Agnes).—Stephen Davey, Richard Harris, July 6: New Shaft, Pryor's Lode: In the 154 west we have met with the lode to the south of the gossan, which is now 1½ ft. wide, and producing good work for the stamps—a kindly looking lode. In the 142, driving east of shaft, the lode is 3½ ft. wide, and worth for tin 6l. per fathom. In the 142, driving west of shaft, the lode is 5 ft. wide, and worth for tin 15l. per fathom. In the rise in the back of the 142 west, the lode is 3 ft. wide, and worth for tin 9l. per fathom. In the 106, driving west of shaft, the lode is 1½ ft. wide, and worth for tin 5l. per fathom. In the 94, driving west of shaft, the lode is 3 ft. wide, and worth for tin 9l. per fathom. In the 65, driving west of shaft, the lode is 4 ft. wide, and worth for tin 8l. per fathom.—Old Lode: In the 100, driving west of engine-shaft, the lode is producing a little tin, but not sufficient to value. In the 90, east of engine-shaft, we have no change to report.

WHEAL MARY HUTCHINGS.—Henry Miners, July 10: I am pleased to say the kilns are still working well, and the result, as far as seen by opening one of the doors, is very good. The lode is still turning out splendidly.

WHEAL NEWTON.—H. Bennett, July 11: The men are making fair progress in sinking the engine-shaft, and the lode is looking very promising, and we hope soon to be able to report a good improvement at this point. The lode in Bennett's shaft is looking very kindly indeed, composed of carbonate of iron, sulphur-mundic, and to-day we broke some good stones of silver-lead. All other points are without any material change.

WHEAL PEEVOR.—W. T. White, J. Pryor, July 6: Setting Report: The 80, to drive west of shaft on south lode, by four men for the month, at 5l. 10s. per fathom; lode worth 13l. per fathom. A winze to sink in the bottom of the 70, by six men or the month, at 5l. per fathom; lode worth 8l. per fathom. The 70, to drive west, by four men, at 6l. per fathom; lode worth 22l. per fathom. A rise in the back of the 70 west, by four men, at 8l. per fathom (12 ft. long); lode worth 18l. per fathom. Two stopes in the back of this level, by eight men, at 2l. 15s. per fathom each; lode worth respectively 10l. per fathom. The 60, to drive west, by four men, at 6l. per fathom; lode worth 15l. per fathom. A rise in the back of the 60 west, by four men, at 6l. 10s. per fathom (9 ft. long); lode worth 14l. per fathom. The 48, to drive west, by four men for the month, at 5l. 10s. per fathom; lode worth 10l. per fathom. No. 1 stope in the back of the 48, by four men, at 3l. per fathom; lode worth 9l. per fathom. Nos. 1 and 2 stopes in the back of this level, by eight men, at 2l. 5s. per cubic fathom; lode worth in each 20l. per fathom. The 36, to drive west, by four men, at 7l. per fathom; lode worth 15l. per fathom. Two stopes in the back of this level, by eight men, at 3l. per fathom; lode worth in each 11l. per fathom. The 36, to drive east of rise, by two men, at 6l. 10s. per fathom; lode worth 9l. per fathom. A rise in the back of the 36, by four men, at 9l. per fathom (12 ft. long); lode worth 18l. per fathom. The shaftmen are making fair progress in cutting the balance-bob pit at the 3. Our tribute pitches are producing a fair quantity of tinstuff, two only of which out of 17 are on the south lode, the others being on side lodes leading to it. The mine still looks well, and is producing a large quantity of tin.

WHEAL RUSSELL.—J. Bray, July 4: The lode in the Maria shaft is 4 ft. wide, 3 ft. of which is spotted with copper ore—a very promising lode. The lode in the 25 is large but poor.

WHEAL UNY.—Wm. Rich, M. Rogers, July 8: The stope in the back of the 60, west of incline, is worth 6l. per fathom. The winze in the bottom of the 120, east of King's, yields low quality tinstone. The 130 east is worth 9l. per fathom. There is nothing new to report on in the 140 east. The 150 east is worth 8l. per fathom. The rise in the back of this level is worth 8l. per fathom. The 150 west is worth 5l. per fathom. The 160, east of Goodinge's, is poor. The rise in the 160 west is worth 10l. per fathom. We hope to hole the rise to the bottom of the 15 in a few days. The lode in Hind's shaft, below the 160 fm. level, is worth 10l. per fathom.

WHEAL PRUSSIA.—W. Tregay, July 11: Tregay Shaft: The lode here sinking below the 45 will produce 2 tons of black tin per fathom for the size of shaft. In the 45 east end the lode produces 1 ton of black tin per fathom, the 40 west 15 cwts., the 30 west end 1 ton, the 30 west winze 1½ ton, and the 20 west end 5 cwts.—Stone Shaft: The lod in the deep adit end, west of this shaft, produces 15 cwts. of black tin per fathom. No other changes to report.

FOREIGN MINES.

BLUE TENT.—The directors have received the following telegram from their manager, Prof. Price: June returns, $17,200.

BIRDSEYE CREEK.—Telegram from Mr. G. S. Powers: We have cleaned up after a run of 30 days. The gross returns are $6000; profit, $1000. I send you a remittance of $1000.

ALMADA AND TIRITO CONSOLIDATED.—Telegram from Mr. Clemes:—Drought causes scarcity in reduction works. The ore in the new east lode (Providencia) continues to make downwards—now green. We have remitted you ore and bullion.

EBERHARDT AND AURORA.—Telegram from Capt. F. Drake: The tunnel driven in 3578 ft.—in shale; mine looking much better; on mine dumps, 950 tons; starts July 9. Send 2000l.

— Capt. Drake, June 13: In reference to hauling I beg to say that I have arranged with Mr. O. M. Converse to haul what ore we have this season—say, 2000 tons. I have bargained to him a portion of the company's animals and quartz wagons in part payment for his hauling—that is, he is to draw only about one-half the amount in money (say, $1·50 per ton), and take his pay for the other part in live stock, wagons, and harnesses at the prices we have agreed upon.

— Capt. Drake, June 17: Everything continues about the same as last reported. The mine is quite as encouraging, and the rock in tunnel face, although somewhat of a firmer texture, still excellent working ground—a mixture of grey lime and argillaceous shale, the shale largely predominating.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada, Week's run, $65,000, from 1030 tons of ore. Refinery, $55,000.

— R. Rickard, June 19: Since my last there is nothing of importance to report from the mine. No. 4 chamber is looking very well in the western end, but the upper part of the stope is not looking so well as it was, the ore body is much narrower, being at present 5 ft. wide; a drift has been started from the eastern end towards No. 2 chamber—it is in low-grade ore. The No. 5 chamber has also fallen off in value, the upper part of the stope is narrowing, being at present 4 ft. wide. The No. 6 chamber, in bottom of Lizette tunnel, is without change. No. 7 chamber, below the 400, is much improved, the ore is opening out well, being at present 45 ft. long by 40 ft. wide, and in the western end the ore is still making down. No. 9 chamber is without change since my last. No stoping has been done in No. 10 since my last. The rise in back of No. 10 is much improved; it is now upon an incline (very flat) 40 ft., with very fair ore all the distance. The winze below No. 10 is down 40 ft., the bottom is in ore and bon ders of limestone very good ore. The 500 cross-cut has entered more favourable ground for drifting. A drift has been started on the 500 west on the fissure to come under the ore making down from the No. 7 chamber. The winze and rise on the fissure in the 500 west are without any change—the wall is still well defined. The drifting of the 600 west has been resumed to intersect the same fissure that is being sunk on from the stope above the 500. All other parts of the mine are without change, exploration is being pushed on as fast as possible. The furnaces are still in good working order; during the past week we have had several stoppages on account of minor repairs to machinery.

DON PEDRO.—Telegram from Rio, dated July 7: Produce for June, 1050 oits.

— Extract from Capt. Vivian's letter, June 10: Drainage: I am pleased to inform you that good progress has been made, and still continues to be made, in clearing and securing the sump shaft below the 35, and hope to be able to advise you by cable in about eight days from now that sinking is resumed. There will be still some repairs required between Vivian's shaft and the level referred to, but which will in no way interfere with the sinking. Notwithstanding that the 60-ft. wheel has only recently been put to work, I regret to inform you that it has already given us a great deal of trouble, as it has become loose on the axle; although we have repeatedly driven the keys with a heavy instrument it only keeps it firm for a short time, therefore we have decided to take other steps to fasten it—with strong wood yokes, which we intend to secure with heavy strong iron staples to the axle. the same yokes to be firmly fastened to the centre plates which support the arms. All the mechanical force is employed night and day making the necessary preparations, and I sincerely hope and believe we shall be able to make it perfectly secure by this means, and in time to advise you by next mail. I do not see any other way of making a good job of it. I may mention that the axle is round, parallel, 11 in. in diameter, and made in two parts.—Mine: The stopes generally are looking quite as well as heretofore, but, on the whole, the ore is of a very low quality. The exploring rise in back of No. 1 stope in No. 8 new shoot east, section 69, has come in contact with some old timber, which appears to be a pillar, therefore we cannot continue the rise, but we have commenced opening east on the lode so as, if possible, to get clear of the timber referred to before resuming the rise to communicate with the new level, as intended, for ventilation. As anticipated, No. 5 shoot has been intersected in the adit level driven north-east of Vivian's shaft; the lode is large, and has a splendid appearance, but hitherto the samples taken therefrom are not auriferous; however, judging from the size, character, and general appearance of the same, a great improvement may be fairly calculated on. As soon as the place is ventilated by the rise from below, this shoot will be extensively explored. The other points in operation are being carried on without any change to note.

— Copy of Mine Captain's letter, dated June 10: General Remarks: The ore has been obtained from the following sources:—No. 8 new shoot below adit level, and same shoot at Alice's West, and No. 8 old shoot Bawden's cross-cut, north ground. The ore being of low quality, notwithstanding this the lodes maintain their size and general favourable appearance; therefore, improvement for the better may take place by extending operations a very short distance on these stopes.—No. 8 New Shoot: A slight improvement in the appearance of the branches in the No. 1 stope east below adit level has taken place since last advised, though still of low quality. The branches in the No. 3 stope east below adit level continues of fair size, but of low standard. The branches continues of small size and moderate quality in the No. 4 stope east below adit level.—Alice's West: The second stope opening out for ventilation is progressing slowly, owing to the crushed state of the ground, and the old timber we have to contend with.—No. 8 Old Shoot, Bawden's Cross-Cut, North Ground: Nothing done in Bawden's cross-cut since last reported on. The No. 4 stope east from cross-cut has come in contact with old workings, and suspended. No alteration in the No. 5 stope east to note since last advised. The lode in the No. 6 stope east though greatly improved in size and appearance, is of low quality. The lode in the No. 1 stope, west of Bawden's cross cut, though of fair size is of inferior quality; this stope having communicated to an old level from Alice's, is suspended *pro tem.* westward, and is now being extended southward; the lode is of promising appearances in this direction. The incline west from cross-cut towards Bryant's continues in bunchy ore ground of low standard; the ground in south side opening from incline is still very hard for quarrying, and progress slow.—Prospective and Running Work: Incline Shaft: Fair progress made in the clearance of debris and old timber, which is necessary before resuming the sinking of the shaft, and shaft being properly secured. In section 69 of the new level a large strong fine-looking lode has been discovered, which is no doubt No. 5 shoot; so far as yet opened on samples taken therefrom have been unproductive, but its appearances raise hopes of improvement shortly.—Nos. 1 and 3 Stopes: In the rise of the former stope we came in contact with an old pillar of timber (apparently), and then commenced extending east from rise, opening from frame set; the bottom of the old pillar is 8 ft. 6 in. above the bottom of the frame; the branches continue of fair size and quality. The heat and foul air emitted from the old pillar was such as to necessitate the fixing of an air machine to enable the men to work here; since it has been fixed about 14 ft. has been driven east from the rise, and the branches continue of fair size and quality. In the No. 3 stope east the pillar has been extended, and several sets renewed, and incline road extended 18 ft. In Bawden's stopes several props put in, and pillars of timber extended. Bryant's cross-cut still in hand.—60-Ft. Wheel: Bucket changed six times of drawing lift, two rolls renewed, linings changed where required.—Reduction: A new brace made and put in stamps front, and many other little jobs done too small to merit special mention.

COLORADO UNITED.—F. Andrews, July 9: The following is taken from the superintendent's letter, dated June 21, and received this morning:—I beg to submit to you a general report on the property, which looks all through better than it ever did before. Starting from the Union Tunnel, the drift west is now in over 100 ft. We have this week started to run our second 100 ft. at $9 per foot. The breast of this drift shows up most excellent crevice matter, but does not contain much mineral. The crevice is, however, full of scattered argentiferous grey copper and galena, and the lode is strong and well defined. The stopes just commenced from this level to the 6th, 60 ft. above, is looking splendidly. We have raised now for a distance of about 30 ft., some 20 ft. high, and the average of the whole 30 ft. is 6 in. of good mineral. From this stope, which I shall make 100 ft. by 60 ft, I estimate we shall take out over $35,000, and this is a very low estimate. The Silver-Ore shaft, which is now 40 ft. below the 7th level and Union Tunnel, shows to-day at the bottom a streak of good ore from 4 in. to 7 in. in width; the ground which has been very hard has now changed for the better, and is breaking freely, which enables the contractors to make faster time than they have hitherto done. Entering the 7th level by the connection made in the Union Tunnel and crossing over a platform in the Silver Ore shaft 300 ft. below its apex, we come to stope No. 4. The west side of this stope, nearest to the Silver-Ore shaft, discloses very good minerals, the ore streak here being 5 to 8 in. The east end of the stope, however, has not hitherto opened up quite as well as I could have wished, but last night we came into a nice streak of about 4 in. of mineral, which I feel confident will run well. I calculate for some time to come to take out 1 ton of ore a day from this stope. About 20 ft. east through the 7th level brings us to the Terrible shaft, and a descent of 80 ft. to the 8th level. This level (the 8th), now in 30 ft., still continues to show a good 4 in. of the same splendid mineral. The stope in this level from winze No. 1 to winze No. 2, a distance of 180 ft. in length, to be raised to the 7th level (80 ft.), is opening up, as I anticipated, splendidly, and I have no hesitation in saying that this stope will produce more mineral than any stope hitherto worked in the mine. I am always very careful not to over-estimate any workings. I consider this stope to be worth fully $250,000 (50,000l.), and Mr. Hamil agrees with me in this estimate. Mr. Hamil and I have agreed that it is absolutely necessary to sink the Terrible shaft a further 100 ft. below the 8th level. This shaft is now down 460 ft. from the Discovery shaft, and 280 ft. from the Tunnel level, and about 15 ft. below the 8th level. From the very bottom of the shaft I took out last night a piece of ore about 3 in. in width, full of brittle silver and grey copper. I feel certain from the dip of small veins or feeders in the Tunnel level, 20 ft. east of the Terrible shaft, that they will all unite in depth, and that between our 8th and future 10th levels we shall come into a large body of good ore. Mr. Stockett, the foreman of the mine, congratulated me this morning, and told me that the mine never looked so well as it does to-day.

— Telegram from mine: June ore sales, $16,000. Eighth stope looks splendid; breast of drift poor. Shall start mill on the 15th.—MORGAN.

GOLD RUN.—J. A. Stone, June 19: I exploded a blast of 300 kegs on the 3rd inst. which did good work. It filled the pit already worked, and also the incline. I have the incline clear again, and am engaged washing as steadily as possible. I am driving powder drifts towards Potato Ravine, where there is an excellent chance for a good blast, and will, when exploded and washed off, afford sufficient room to place a mill. I shall visit the head of the Cedar Creek ditches this week, and shall then be able to tell about how long water will hold out.

MINERAL HILL.—Mr. Plummer, June 17: Star and Giant Mines: Since my last the men have been busily engaged in breaking ore at this point, and with fair success. The assorters have collected a much larger quantity of ore than has been heretofore performed in the same space of time. The sum total of our collection last week, including all classes and grades, amounts to something like 25 tons. At the end of the month I will return more specific information, as by that time things will be in a better shape for calculating.—Troy Winze: Tenders are now out for carrying this winze down 30 ft. further, and, if necessary, to drive north and south on the quartz ledge. The quartz looks vigorous and healthy, and I trust our explorations will be successful.

HULTAFALL.—W. Perkins, July 6: I beg to confirm my telegram of yesterday's date—"Am into the lode in the 25; good lead predominates over blende." We met the lode at 31 ft. 6 in. from the shaft, only 18 in. further than I expected to do so. We have good mineral before us, and every shaft shows an improvement in the solidity of the lode. The east level in the 15 has improved very much during the past week; we have neither foot nor hanging wall here yet. The mass of the mineral seems to tend more towards Old Silver. The west level in the 15 is less productive than last week; I am following the footwall here, and hope shortly to have a more productive end. The brickwork for the engine and hauling gear is finished. The masons are now at work upon the stone-breaker foundation; more rapid progress would have been made with this work but that I have taken some of the carpenters and masons to Salaholm to push on the erection of the chat mill and jiggers. The transport of mineral to the dressing floors proceeds well and steadily. We have now a good stock of mineral down. The roadmaking is nearly finished, and will, I think, enable us to dispense with a tramway for a year or two. At Salaholm the erection of the chat mill and appurtenances is fast approaching completion. The two new jiggers are in position, and I hope to be in full work with them next week. I am pushing on the foundation for the two round buddles, but bricklaying and masonry work are slow operations in this country. The men are more accustomed to timberwork.

VIRNEBERG COPPER.—Capt. R. K. Roskilley, July 10: Setting Report: We set on the 4th inst. the following bargains:—Hadley Engine shaft: The 140 metre level to drive south of cross-cut, by three men, at 55 marks per metre; the lode is 2 ft. wide, producing good stones of copper ore, and indicating an improvement. This level to drive north of ditto, by three men, at 75 marks per metre; the lode in this end is improving, and is now worth 15l. per fathom for copper ore. To stope the back of this level (the 140), south of shaft, by six men, at 55 marks per metre; the lode is worth 20l. per fathom for copper ore. The 120 to drive south of shaft, by six men, at 60 marks per metre; the lode in the end is a little disordered by a horse of killas, but judging from its present character we think it will again improve. The 120 cross-cut to drive east of this level, by six men, at 65 marks per metre; this driving is being pushed on with the object of sinking in the bottom of the same, in order to communicate with the rise above the 140 metre level: when this is communicated it will not only give good ventilation to this part of the mine, but will enable us to take away this piece of available ground advantageously. In this cross-cut within the last week we have cut a branch of copper ore, which is worth 10l. per fathom. To drive this level south on the footwall of the lode, by six men, at 60 marks per metre; the lode for the part being carried is 6 ft. wide, and worth 15l. per fathom for copper ore; this is the branch of copper ore reported on in my last which was met with on the foot wall of the stope; this lode at present is carrying its head altogether differently to that of the lode in the south end, and, therefore, we purpose to open on its course in order to see more of its direction south.

To stope the back of this level by six men, at 38 marks per meter; the lode is worth 20l. per fm. for copper ore. To stope the back of ditto on the footwall of the lode by three men, at 30 marks per metre; the lode is worth 7l. per fathom. To stope the back of the 120, north of shaft, by six men, at 60 marks per meter; the lode here is worth 10l. per fathom for copper ore. The 100 to drive north and south of cross-cut by six men, at 50 marks per meter; the lode in this level has a very kindly appearance, and yielding stones of copper ore. Torlse in the back of the 90 stope, north of rise, by six men, at 16 marks per meter; the object of rising here is to communicate with the stope south of rise, in which is a good lode of copper ore. The masons are making excellent progress in building the engine and crusher houses, and the engine from Friedrich Wilhelms and Hütte will be delivered this week. We are busily engaged in putting in a new balance bob to the pumping engine at surface, and to-morrow I hope to have the same completed. We shipped on the 29th ult. on board the Regina Wilhelmina 2800 centners of copper ore for Swansea *viâ* Rotterdam.

PESTARENA UNITED.—July 6: District Val Topoa—Zero Level: In the end south, on the caunter branch, the ground has become more favourable for driving, with small strings of quartz, spotted with pyrites.—Western Lode: The lode in the winze north, in the intermediate level, under Zero, is yielding 6 tons to the fathom, worth 7 dwts. per ton. The stopes in the back behind this end are producing at present 2 tons of low class ore per fathom. The stopes in the back, north of winze, are yielding 14 tons of ore per fathom, worth 13 dwts. per ton.—No. 1 Level: The lode in the end south is yielding 3 tons of ore per fathom, worth 9 dwts. per ton. The drive on the branch in the west side, above No. 1 level, is yielding 4 tons per fathom, worth 5 dwts. per ton.—No. 2 Level: The lode in the end south is small, and not to value. The stopes in the bottom of this level, south of the first cross-cut, are yielding 4 tons to the fathom, worth 10 dwts. per ton—Great Quartz Lode: The lode in the end, north of the 4th cross-cut, on eastern part, in No 2 level, is yielding 8 tons of ore per fathom, worth on an average 10 dwts. per ton. In the 5th cross-cut eastward we cut into the eastern part of the great quartz lode; this part is of a very promising appearance for the production of a large quantity of ore. In the end south of the 1st cross cut eastward the lode is 1 ft. wide, of quartz of low quality. In the intermediate end south, under No. 2 level, the lode is yielding 4 tons per fathom, worth 7 dwts. per ton. The stopes in back behind the end are yielding 12 tons per fathom, worth 7 dwts. per ton. The stopes in back of this level north are yielding 10 tons per fathom, worth on an average 6 dwts. per ton.—Flat and New Lodes—No. 2 Level: In the rise in the back, south of the 4th cross cut, the lode is small at present. The lode in the winze near this cross cut is yielding 3 tons of ore per fathom, worth 8 dwts. per ton. The lode in the intermediate drive, under No. 2 level, in the north end of the ground, on the turn of the flat lode, is yielding 3 tons per fathom, worth 4 dwts. per ton. The stopes in the back of No. 2 level, south of the 1st cross cut east, on the continuation of the flat lode, are yielding 15 tons per fathom, worth 7 dwts. per ton.—No. 3 Level: The lode in the rise in the 1st cross-cut westward, on the flat lode, is yielding about 2½ tons of low class ore per fathom. The stopes in the back, south of the cross cut east, on the new lode, are yielding 6 tons of ore per fathom, worth 4 dwts. per ton.—No. 5 Level: In the cross cut westward we traversed a small branch of quartz.—Surface: Fair work is being done on the shed over the new picking-floor for No 4 level. The wire tramway and all the machinery at the establishment are in fair working condition.

District Pestarena: The lode in the incline shaft, sinking under the 100 fm. level, is yielding 3 tons of ore per fm.; worth as per small mill trial 1 oz. 6 swt. 1 gr. per ton. In the 100 end north the lode is yielding ½ ton of ore per fathom. In the 100 end south the lode is yielding 3 tons per fathom; a small mill trial from this end gave after the rate of 2 ozs. 5 dwts. 4 grs. of gold to the ton. In this level on the branch taking off in the western side the lode is yielding 2½ tons per fathom, worth 17 dwts. per ton In the 90 end south the lode is yielding 1 ton of ore per fathom, worth as per mill trial 4 dwts. 12 grs. per ton. No. 1 stope in the back of this level is yielding 6 tons per fathom, worth as per small mill trial 2 ozs. 13 dwts. 13 grs. per ton. No 2 stope is yielding 5 tons per fathom, worth as per small mill trial 3 ozs. 4 dwts. 12 grs. per ton. No. 3 stopes are yielding 4 tons per fathom, worth as per small mill trial 3 ozs. 4 dwts. 12 grs. of gold per ton. The No. 1 stope north of new incline shaft is yielding 6 tons per fathom, worth 17 dwts. per ton. No. 2 stope is yielding 4 tons per fathom, worth 17 dwts. of gold per ton In the 80 north the lode is yielding about 1 ton of ore per fathom, worth 4 dwts. 12 grs. of gold per ton. The lode in the 65 south of cross-cut, on No. 2 lode, is yielding ½ ton of ore per fathom. In the end north of the 55, under the old Acquavite Mine, on No. 1 lode, the lode is yielding 6 tons per fathom, worth as per small mill trial 1 oz. 1 dwt. 7 grs. of gold per ton. The winze in this level has been communicated to the old 65: a good travelling road can now be put from the old 65 to the 80, as well as leaving open the end of the ground where there is in places a lode that will yield about 5 tons of ore per fathom; this will become available when the road is put in. No 1 stope in the back of the 55 is worth 1½ ton per fathom, at 7 dwts. per ton; this stope is suspended for the present. No. 2 stope yields 1 ton of ore per fathom, worth 10 dwts. 8 grs. per ton. The lode in the rise in the back of the 33, on No. 2 lode, is yielding 1 ton per fathom, worth 7 dwts. per ton. The stope in the back of this level, on the same lode is yielding 1½ ton per fathom, worth 7 dwts per ton.—Acquavite Department: The stopes in the back of the old 55 are yielding 4 tons to the fathom, worth 17 dwts. per ton. We have resumed driving the 33 end north; the lode is small, but we are looking forward to an improvement shortly in this end. The stopes in the back of the 23, north of shaft, are yielding 7 tons per fathom, worth 8 dwts. 9 grs. per ton. Good progress is being made in rising the roof of the old adit.—Surface: The shed over the addition to the picking-floors is drawing near completion.

CAPE COPPER.—The Ookiep, Spectakel, and Trial Mines reports are received Returns for May: Ookiep, 975 tons of 30 per cent. Spectakel and Nababeep together, about 30 tons of about 30 per cent. Bill of lading received: 550 tons per Anne Beal. Arrivals at Port Nolloth: The Golconda, Gleam, and Antonio Vinent Sale of ore by public tender: On July 3, 500 tons, at an average of 12s. 5½d. per unit, realising approximately 925l. Put forward for sale: 500 tons on 17th inst.

GOLD IN NEW ZEALAND.—We are glad to notice that the gold yield for the month exceeds the previous one by over 500 ozs., which augurs well for the prosperity of the district. It is a noticable fact that the winter season is always the best, therefore we can safely look for a large increase during the next few months. The most important feature of the month's proceedings is the taking up of abandoned ground at the head of the Moanatafari Creek, and the formation of companies to work the same, the whole of which have been favourably received by the public, consequent on the steady and payable returns from the reefs worked by the Alburnia, which are proved by survey to run through the various pieces of ground. The fact that our most influential and experienced men have invested largely in the new companies floated is a sufficient guarantee that they are not formed on purely speculative grounds, but that it is intended thoroughly to prospect and work the different mines, and that too with every probable prospect of success. At the Alburnia Company annual meeting a very satisfactory report was presented, showing that the dividends paid for the year amounted to 37,600l. The crushings showed that 13,000 ozs. of gold had been realised, of the value of 48,200l. The reserve fund had been increased by 2140l., making a total of 4140l.—*Thames Advertiser*, May 27.

PORTLAND CEMENT.—Mr. Henry Faija, A.I.C.E., of Great Queen street, Westminster, has just opened a Portland Cement testing room and laboratory which cannot fail to prove a great convenience to architects and others connected with the constructive arts. Mr. Faija has had great experience in connection with the Portland cement industry, and the tests which he proposes to make will greatly tend to set at rest any difference of opinion which might exist as to the quality of any particular delivery of cement, would be of inestimable value to the trade and consumers generally, and would often be the means of avoiding vexatious ligitigation, and not always satisfactory arbitration. Mr. Faija has made arrangements which will enable him to carry out in an efficient and thoroughly reliable manner all such tests as are usually required by engineers and architects, and also to make such analyses of raw materials as are often necessary for manufacturing purposes. All tests and analysis are carried out under his personal supervision, and with each test or analyses Mr. Faija gives a guarantee that the results arrived at are in every respect the true ones. The chemical analysis of Portland cement gives about 80 per cent. of carbonate of lime, the remaining 20 per cent, being composed of silica, iron, and alumina. In practice these proportions are roughly attained by a mixture of chalk and mud, obtained from the banks of the Thames and Medway, (or in some cases in lieu of the mud gault clay), in the proportions of about 4 of chalk to 1 of mud or clay according to the ingredients each material used is found to contain. These are mixed in what are technically known as wash mills, and the result called "slurry" is run into large reservoirs or "backs," and allowed to settle; it is then dried and calcined at a high temperature, and afterwards ground between mill stones to the requisite fineness In colour Portland cement should be of a dull bluish grey and should have a clean, sharp, almost floury feel in the hand. It should weigh from 112 lb. to 118 lb. per striked bushel, and should be so fine that 80 per cent. will pass through a sieve of 2500 meshes to the square inch; when moulded into a briquette and placed in water for seven days, it should then be capable of resisting a tensile strain of from 300 lb. to 400 lb. per square inch, and should, during the process of setting, show neither expansion nor contraction. A light cement, one weighing from 100 lb. to 108 lb. per bushel, is invariably a weak one, though it may be of the requisite fineness; at the same time a heavy cement if coarsely ground is also weak, and will have no carrying capacity for sand. As the more the clinker is burned the harder and heavier it becomes, and therefore more difficult to grind in the millstones, the heavy cements to be met with are almost invariably coarse ones; and as an under-burned cement from it softness will be ground fine enough, but will be found deficient in weight, it will be seen that the weight, unless taken in conjunction with the fineness, is no test as to the quality of the cement. It will, therefore, be found advisable to adopt a medium weight such as before mentioned—namely, from 112 lb. to 118 lb. to the striked bushel, as with that a finely ground cement may be secured, and one that will suit most engineering and building operations.

RESULTS OF BORING BY MACHINERY.—The Beaumont boring machines have been at work at Carn Brea Mines about twelve months, with a result which must be interesting and important for all miners to learn, even if it should not prove a strong inducement to the adventurers and agents of other large mines to obtain the services of such machines to rapidly develope their property. The company commenced to drive at Carn Brea on June 18, 1877. Since that time they have driven 34 fms. in the 226, east of Highburrow west, 64 fms. in the 226, west of Highburrow west, 48½ fms. in the 213, west of Highburrow west, and 45 fms. in the 238, west of Highburrow east, making a total of 191½ fms. The levels are large ones, measuring from 8 ft. to 8 ft. 6 in. square, and, taking the average as 8 ft. 3 in., there would be an extent of 78,303¾ cubic feet, and with 14 ft. to the ton of stuff, we find that altogether 5586 tons of stuff have been broken during the twelve months' working. But during these twelve months there have been stoppages and hindrances, through changing the machines from one part of the mine to the other, delays through water being in the mine, &c., which it is calculated would amount to about three months, so that the result obtained has been achieved by nine months' actual working. The work would average about 16 fms. a month for the twelve months, or about 21 fms. for the nine months. In the 238 end, where they are now driving, they are 67 fms. from the shaft, without any communication whatever for ventilation, and yet the ventilation is perfect; and it is intended to drive 80 fms. further in the same end, without any communication or supply of air beyond what is sent down to work the machines. As a striking proof of what can be done by these machines we may state that they worked a week recently without let or hindrance, and they drove in that week 8 fms. 3 ft., being at the rate of 34 fms. a month, while six men, in the same end,

continuously working, would drive scarcely 6 ft. in a month. It should be borne in mind that it is not necessary to have an 8 ft. lode to work these machines; they can be worked quite as easily in a lode of 4½ ft. At every blast the end is advanced 3 ft., and all the stuff coming from an end 8½ ft. square, from a 3 ft. blast, is brought out to the shaft, and the machine placed ready to work again in the space of three hours. The Beaumont Company are the only company that has taken a contract to drive ends in Cornish mines, so that we have no means of comparing their work with that of other companies; but the speed with which they have driven the end at Carn Brea dwarfs into insignificance the results which have been attained by the boring machinery used at other mines so far. It is, perhaps, right to add that the only explosive regularly used by these machines is dynamite. We are informed that it is found in use and by practical results to be the most powerful, and at the same time the most economical, explosive that can be used for this purpose; other new explosives have been tried, but only quickly to be set aside in favour of dynamite.—*West Briton.*

The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JULY 12, 1878.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde..	2 9 7-	—
,, Scotch, all No. 1 ...	2 10 0-	3 10 0
Bars, Welsh, f.o.b. Wales	5 0 0-	5 5 0
,, ,, in London.	5 12 6-	5 15 0
,, Stafford., ,, .	6 15 0-	7 10 0
,, in Tyne or Tees ...	5 5 0-	5 10 0
,, Swedish, London ..	9 10 0-	(nom.)
Rails, Welsh, at works..	4 15 0-	5 0 0
Sheets, staff., in London	8 5 0-	—
Plates, ship., in London	6 15 0-	—
Hoops, Staff.	7 15 0-	—
Nail rods, Staff. in Lon.	6 10 0-	6 15 0
STEEL.		
English, spring 13	10 0-	19 0 0
,, cast 30	0 0-	40 0 0
Swedish, keg.....14	0 0-	—
,, fag. ham. 15	0 0-	—
LEAD.		
English, pig, common...17	0 0-	—
,, ,, L.B.....17	5 0-	—
,, ,, W.B. 17	10 0-	—
,, sheet and bar..18	0 0-	—
,, pipe.....18	10 0-	—
,, red 19	0 0-	—
,, white 24	5 0-	26 0 0
,, patent shot ...21	0 0-	—
Spanish 16	12 6-	16 15 0
NICKEL.		
Metal, per cwt 18	0 0-	20 0 0
Ore, 10 per cent. per ton.24	0 0-	26 0 0
QUICKSILVER.		
Flasks of 75 lbs., ware.	7 0 0-	—
SPELTER.		
Silesian	18 2 6-	18 5 0
English, Swansea	18 15 0-	—
Sheet zinc	21 10 0-	22 10 0

TIN.	£ s. d.	£ s.
English, ingot, f.o.b...	65 0 0-	—
,, bars ,, ...	66 0 0-	—
,, refined.....	68 0 0-	—
Australian	61 10 0-	—
Banca	63 0 0-	(nom.)
Straits	61 10 0-	—
COPPER.		
Tough cake and ingot.	68 0 0-	68 10 0
Best selected	69 10 0-	70 0 0
Sheets and sheathing .	73 0 0-	—
Flat Bottoms	78 0 0-	—
Wallaroo	73 10 0-	73 15 0
Burra, or P.C.C.	71 0 0-	—
Other brands	68 0 0-	69 0 0
Chili bars, g.o.b.....	62 15 0-	—
PHOSPHOR BRONZE.		
Bearing metal	£112 0 0	
Other alloys	£120 0 0-	140 0 0
BRASS.		
Wire	7½d.-	8d.
Tubes.....	7½ -	—
Sheets	8¼ -	8¾
Yel. met. sheath. & sheets.	6 -	7
Nails composition.....	8¾ -	9

TIN-PLATES.*	per box.	
Charcoal, 1st quality ...	1 1 0-	1 2 0
,, 2nd quality ...	0 19 0-	1 0 0
Coke, 1st quality	0 17 0-	—
,, 2nd quality	0 15 0-	0 16 6
Black .....per ton	16 0 0-	18 10 0
Canada, Staff. or Gla., at Liverpool	11 10 0-	12 0 0
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IC quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—There is a great calm, or, to speak plainly, utter stagnation prevails in our market. Business, in fact, is more contracted than ever, and the recent speculation has turned out as might have been expected—a complete failure. Everyone who has the chance should at once close outstanding accounts, and avail themselves of the dulness of trade to take their departure to the country or seaside, and enjoy a long holiday, as some benefit would probably accrue to their health, whereas no good of any material kind can be derived from staying in town. There is certainly nothing to be done just now to make any money by, and no sales that can be made even with a slight sacrifice should be postponed, for although there need be little apprehension in regard to any evil effects from over-trading, yet there is considerable exhaustion and prostration arising from inanition, and as our markets are still overburdened with heavy stocks, it is evident that they are causing immense strain to holders, and it seems exceedingly doubtful whether the present state of things can continue much longer without bringing about a general collapse. It is unpleasant to contemplate, and it may be more agreeable to try and forget it, but the danger is imminent, and will remain all the same whether it is considered or not, and as difficulties are not generally overcome by taking things easy or by turning one's back upon them, it would be most advisable to grapple with it forthwith. An effort is necessary to shake off the existing lethargy, and prepare for any sudden emergency. Prospects are decidedly gloomy, and the present calm may prove the precursor of the storm.

The first step, therefore, is to avoid unnecessary risk, and provide against losses as much as possible, and do not on any account foolishly enter into speculative transaction that cannot be well covered, for it rarely happens that speculation undertaken at a critical period, and in a feeble and falling market, is attended with any favourable results; on the contrary, it more often proves disastrous. The late speculative movement was only one of a number which has been occasionally tried in the hope that the reduced prices alone would be sufficient inducement to draw in unwary buyers; but notwithstanding the accompanying excitements of such attempts, they have hitherto been unsuccessful, because they have been unsupported by any substantial reasons, or endorsed by any large and important section of the trade. The indifference to speculation, however, must not be mistaken. It does not proceed so much from any feeling of opposition to the practice, providing it does not interfere with the regular course of legitimate business, but there is a want of power which would render any participation exceedingly hazardous, and buyers openly express their inability to join in speculation, simply because they cannot afford to accept the risk it involves. At the present time a loss would be extremely difficult to make up, on account of the smallness of profits and the dimished amount and slackness of trade; buyers, therefore, are thoroughly persuaded that it is better to abstain from speculation, and quietly to look on for awhile, since speculation has manifestly broken down in establishing any permanent improvement in prices or in creating any better demand; and, further, these repeated failures only tend to expose the weakness of our market, and to impress it more deeply on the public mind, and they continually lead to greater depreciation. While speculators act injudiciously the long wished for revival must necessarily be retarded and injured, but let us hope that the experience of the past will prevent any repetition of similar mistakes, and that the markets will be left alone for a time, and uninfluenced by any other principle than that of supply and demand.

Congress, which was to put everything right according to the views of some speculators, has caused no increase in trade whatever; a little speculation sprang up on its announcement, and, as we have previously stated, only had the effect of creating false hopes and impressions. It has landed us in the middle of summer with all the advantages of fine open weather, and yet not the slightest stimulus is apparent, and judging from present appearances the tendency is still downwards, and in the face of the Board of Trade Returns, published this week, we scarcely think anyone can hold a contrary opinion. The totals for the first six months of this year are only 94,660,469*l.*, against 95,234,130*l.* in 1877, and 99,210,059*l.* in 1876. The figures for June also compare unfavourably with those of 8 7, there being a reduction of 213,421*l.* for this year. The declared value shows a greater difference, there being 28,661,103*l.*, against 29,810,370*l.* in 1877. This last statement of the Board of the Board of Trade is surely sufficient evidence to show the direction in which trade is moving, for it not only applies to metals but to general merchandise. It is a complete corroboration of the views and opinions we have repeatedly expressed, and ought to be taken as ample proof of the uselessness and folly of running counter to the settled course of events. Our reports in the past have been unquestionable, because they have been true and faithful, and we have no intention to swerve in the least from this characterism, therefore there is no reason why we should not be equally right and correct in the future. This month up to the present time has been remarkably quiet, and there is no immediate prospect of amendment, and unless anything unforseen occurs it will probably prove one of the dullest of the whole year.

COPPER.—The principal features in connection with this metal are as follows:—Heaviness of stocks, overwhelming supplies, diminished demand, and weakness of prices; these constitute the present state of the market, and the immediate future will doubtless be subject to prevailing influences; but, however unfavourable these points may be generally regarded, yet there are some who evidently take a sanguine view, otherwise they would not retain their interest in the article so long, but would realise without delay; for, looking at the present condition of affairs, there is nothing outwardly to warrant the expectation that the market will be better a little later on than now, but there always exists a possibility opposed to probability, and it would appear that upon this poor slender chance some few holders take their stand, and jeopardise their future safety. There is little prospect of stocks being reduced when the demand is falling off, and in respect to the Indian demand the reduction in the rate of exchange is far too serious to anticipate an adequate rise in it that will enable merchants to execute orders at current rates. The orders for India, Egypt, and the Levant must be nearly all executed by this time, and smelters will now be quite unable to procure sufficient work for their mills to cover cost of manufacture, and under these circumstances stocks may be expected to accumulate. No mention is made of any probability of smaller supplies, therefore no relief can be experienced by that means, and the maintenance of supplies, together with the decreased demand, will rather tend to increase than diminish stocks. It is evident that these influences must exercise a prejudicial effect upon prices, and if concessions are not speedily submitted to the position of the market will be rendered still weaker, for a fall deferred maketh the market sick.

There are ample reasons why copper should decline, but it would be difficult to find any in favour of a rise. It may be argued, however, as it is by interested parties, that the price is low, and that in comparison to former years there is room for an advance; but, in answer to such a frail argument, we would simply say that circumstances alter cases, and that the state and condition of trade in the year 1878 are totally different, and bear no resemblance to such prosperous periods as those of 1872-3. Sellers always forget—and it is sometimes very convenient to forget, and disagreeable to be reminded—that due allowances are absolutely necessary, and must be acceded to, in times of adversity, and sellers cannot be insensible to the important changes that have taken place, and the lower level to which things generally have been brought. It is unreasonable to expect that buyers can afford to pay higher prices when there is no corresponding improvement in other branches of trade or anything in statistics to justify the demand. If holders imagine that buyers are going to make a market to enable them to get released from their superfluous and excessively burdensome stocks they are very much mistaken. Those who hold stocks and decline to meet the requirements of the market will have to act upon them, as we feel confident increased business can only be obtained by making suitable reductions, which, according to Rogers, should be 3*l.* per ton, or not over 60*l.* for Chili bars. Australian also continues to be quoted much too high in proportion to other descriptions; and although Wallaroo and Burra-are acknowledged to be of superior quality, yet the matter of price invariably forms some consideration, and perhaps the difference in quality may not be so great as many have hitherto supposed, and a good substitute is generally worth trying, as it may be found in every respect to answer the purpose, and there is an English make of special fame, which consumers would do well to remember. Advices from New York, dated the 29th ult., state that the market for ingots is quiet, with small sales and lower prices, business having transpired at 16c. cash.

IRON.—There is nothing fresh to report in this metal of any importance, and our market continues in the most lifeless condition that it is possible to conceive, and we should think that iron was seldom or never in a more dormant state than at the present time, and however sellers are going to keep the market together we are rather curious to know. Merchant orders are particularly scarce, and as the foreign markets are well supplied there is not much chance of the demand improving. The rates of freight and exchange to the East also form another obstacle to shipments, the one being up and the other down prevents shipments taking place unless lower prices are accepted. The efforts of sellers are misdirected, for instead of trying to sell as cheapily as possible, and affording facilities for improvement, they exact the fullest prices obtainable. This is bad management at a time like the present, when it is so desirable to promote business, and give encouragement to a feeble market. The question of demand is of far greater consequence than that of price, provided any alteration made in the latter is only moderate, and such as to assimulate with the quotations or other competitors. It is certain that orders will not greatly increase while the English ironmasters are undersold, and before any rise is effected in English iron higher prices must prevail for foreign, but there is no intimation of Belgian prices being advanced, consequently English cannot recover. The principal step to take is that which will ensure the largest amount of trade, and to do this lower rates must be quoted. The cost of production is too much, and compares unfavourably with that of our neighbours, who carry off the work that ought to be executed in England. The Staffordshire ironmasters have lost an opportunity of doing the trade a great service, for they made no alteration at their Quarterly Meeting at Birmingham; a reduction just now would have been particularly acceptable, especially a fall of 30s. per ton in marked brands, which would, probably, have given such a strong impetus to the demand as to keep the works busy for the remainder of the year. Besides the price of marked iron is too high compared with common, the latter being quoted at 6*l.* 10s. for bars in London, and the former at 9*l.* 8s., the difference of 55s. being extreme. The list houses are better able able to submit to close prices than the makers of unmarked iron, and, therefore, they ought to have set a good example, and announced a reduction of at least 10s. or 20s. per ton if 30s. was found to be too much, but the action of one set of ironmasters sometimes influence that of another, and if the Shropshire makers had given way in their price of pigs a general reduction in Staffordshire kinds would undoubtedly have been arranged. It is to be deeply regretted that no change has taken place, because it might have drawn out many orders, and helped to develope the trade during the ensuing autumn, but what is the result—a marked flatness prevails, and we shall have to drag through another dull and monotonous quarter. The next meeting will not take place till after the best portion of the ensuing season has passed away, and it will then be too late to remedy the error. One of the finest opportunities for imparting a stimulus to the trade has been allowed so escape, and it clearly shows a want of a master mind to guide and control the trade in a safe and efficient manner.

Another week has come to its close, but without any material alteration having taken place in any of the markets throughout the kingdom. The trade certainly keeps very dull, and although hopes in some districts are entertained that a speedy improvement must take place, yet we fear these hopes are resting upon a very feeble bassis, as we fail to see anything in the present routine of business to justify them, and we cannot but think that such as read the various daily returns from the different iron producing districts can be of any other opinion as regards the immediate future welfare of the trade. For instance, at Leeds there is no perceptible alteration from what we have from time to time already quoted. Orders are still very scarce, so much so that it is reported that the mills are unable to keep in employment full time, few being able to keep going more than four days per week, while many are only working three days out of the six. It seemingly does not matter much which kind of iron is taken into account as regards the demand, for all descriptions are so dull that certainly no favourable article could be made up on any one of them. Makers of best Yorkshire iron are said in particular to be very badly off for orders, so much so that the recent contracts with the Indian Government and railway companies are valued as inestimable blessings. Likewise at the Rotherham district no noteworthy change has occurred, although one or two of the works are, perhaps, rather better employed than those in the last-named producing part of the country, and it is not unsatisfactory to learn that it is the intention of the Parkgate Iron Company to re-light one more of their furnaces, which has now been for some weeks out of blast. Orders for hoops are said to exceed those of any other description of iron at the Rotherham Forge and Midland Ironworks.

There is not much to be reported from Newcastle further than that business remains stagnant, but it is said that the demand for manufactured has to some slight extent improved. What little change has taken place on the Barrow-in-Furness markets is said to be a turn in the wrong direction, as the hematite brands are stated as being slightly weaker, and what few contracts have taken place being chiefly accepted at prices below the current rates. There appears to be but little demand for finished iron, and the works are consequently represented as remaining in a most idle condition, and the output of bars and plates is so small that it considerably decreases the average. The price for iron ore keeps firm, and a moderate number of sales are noted. The market likewise at South Durham, though steady, remains very quiet, the demand being of a very limited character. The enquiries for pigs are reported as being more numerous than other descriptions, but yet it is stated that merchants are very loth to place their orders, stating that the present prices are still too high. At the commencement of the week No. 1 was quoted at 43s.; No. 3, 39s.; and No. 4 forge, 38s.; but at the Quarterly Meeting, held at Middlesborough on July 9, makers advanced their price for No. 1 forge to 38s. 3d., refusing to accept orders at anything under this price, consequently few transactions took place. Business also was very limited for Nos. 1 and 3, but the returns show no alteration having taken place in price.

The shipping trade in particular is very dull, and shipments both to the Continent and Scotland are said to have fallen off. It is stated, however, that the stocks in Connal's store continue to decline on account of many makers having given up storing. The present quantity now in stock stands at about 60,900 tons. Orders for manufactured iron are scarce, but the enquiries are stated as being somewhat more numerous; prices, however, show little alteration, as plates are still quoted at 6*l.* 2s. 6d. to 6*l.* 5s., angles at 5*l.* 12s. 6d., and common bars at 5*l.* 10s. per ton, and puddled bars have been bought at 3*l.* 12s. 6d. per ton net. The foreign markets, like the English, are mostly dull, with quotations showing but little variation. For instance, the market at New York for American pig-iron is stated by the mail of the 29th ult. as being excessively dull. It quotes No. 1 X, $16 50c. to $17; No. 2 X, $15 50c. to $16; and forge, $15 to $15 50c.; No 1 X Lehigh, $18 to $20; and No. 2 X ditto, $17 to $19. The market remains quiet for Scotch, and prices keep without any decided change, Glengarnock is quoted at $23; Eglinton, $22 50c.; and Coltness, $32. In the absence of business for scrap No. 1 is quoted at $20 to $21, and cast $13 to $16. A fair demand exists for rails at $34 to $37, and old $17 to $18. No alteration is reported in manufactured either as regards the price or demand. Scotch pig iron at Glasgow is stated as being dull, and prices receded last week from 50s. 1½d. to 49s. 9d., and at the early part of this week from thence to 49s. 7½d. for prompt cash. There is no market today in consequence of the Glasgow fair. Price quoted here 49s. 7d.

SHIPMENTS.

For the week ending July 7, 1877	Tons	11,217
For the week ending July 6, 1878		7,416
Decrease		3,801
Total decrease for 1878		39,467
Imports of Middlesborough pig-iron into Grangemouth:—		
For the week ending July 7, 1877	Tons	6,020
For the week ending July 6, 1878		5,567
Decrease		453
Total increase for 1878		3,376

FURNACES.

In blast July 7, 1877.....	109
In blast July 6, 1878.....	95

TIN.—According to the Board of Trade Returns for the month of June the imports of tin are 179,239 cwts., against 148,016 cwts. for the corresponding period of last year, and the exports are 60,368 cwts. for 1878, against 61,575 cwts. in 1877. Thus it will be seen that while the imports are 31,223 cwts. more, the exports are 1207 cwts. less for the present year. This is as bad a return as could be published, for it is altogether reversing the proper order of things, and our market must consequently suffer. Although we have an enormous stock on the spot, amounting to between 9000 and 10,000 tons, besides which there is also 2000 to 3000 tons on the way, yet if imports and exports compared favourably there might have been a chance of better prices, but any movement in that direction is now rendered exceedingly doubtful.

TIN-PLATES.—Coke plates continue quoted at former rates. The demand now runs more upon charcoal for the States, and makers in some instances have been enabled to realise higher prices.

LEAD.—This metal has not been quite so firm, and a concession of 2s. 6d. per ton has been made upon some English brands.

SPELTER.—Steady, but quiet.

STEEL.—Unchanged.

THE IRON TRADE.—(Griffiths's Weekly Report).—Friday evening. The Glasgow market has been quiet this week, and prices have a slightly downward tendency. The market closed yesterday with buyers of G.M.B. at 49s. 6½d. There is no market to-day, nor will there be until Tuesday, owing to the Glasgow fair holidays. We quote makers' No. 1 iron:—Gartsherrie, 57s. 6d.; Coltness, 61s.; Calder, 58s.; Langloan, 58s. 6d.; Summerlee, 56s. 6d.; Monkland, 50s. 6d., f.o.b. Glasgow; Glengarnock, 56s.; Eglinton, 50s. 6d., f.o.b. Ardrossan; Shotts, 58s. 6d., f.o.b. Leith. The quarterly meeting was held at Birmingham yesterday. The meeting was influential, but not so large as usual, being conspicuous by the absence of more than one distinguished member of the trade accustomed to attend the Birmingham Quarter-day. All the ironmaking districts were fairly represented, including Barrow-in-Furness and the West Coast, Yorkshire, Derbyshire, Shropshire, North and South Wales, and the Middleborough district. As we had previously announced, the official price of iron is to remain unchanged—8*l.* 10s. per ton for marked Staffordshire bars, 9*l.* 2s 6d. for the Earl of Dudley's. Best Shropshire and Staffordshire forge pigs 4*l.* per ton, cold blast 5*l.* per ton. The orders for finished iron given out by the London and Bristol merchants were moderate in extent, but the Liverpool merchants had but few orders to dispose of. Several merchants from abroad attended this meeting, and some good purchases were made on foreign account, both for Melbourne and the colonies. Among the buyers present we observed Mr. Matthew Leggatt, of the well-known firm of Wood and Leggatt, Hamilton, Ontario, Canada.

There was a moderate business done in forge pig-iron of the best brands—both Shropshire and Staffordshire—but the manufacturers were not eager to purchase largely. Offers were frequently made by this class of buyers for pigs for next year's delivery. These, however, were invariably refused by the Staffordshire, Shropshire, and West Coast smelters. Pig-iron of the best qualities was firm, and as the smelters did not attempt to force sales extensive transactions in the raw material cannot be reported. Although no change was nominally made in price, it was said at the close of the meeting that one or two leading smelting houses on the West Coast had conceded some slight reduction in hematites. The meeting on the whole was cheerful, and the market firm, particularly for second class bars; still there was a want of buoyancy, which may be accounted for by the very depressed and unprofitable state of the coke tin plate trade, which cannot be separated from the iron trade proper, the makers of coke tin-plates being consumers, and consequently buyers, of the best hematites and other high class brands of pig iron.

MESSRS. PIXLEY and ABELL—GOLD: The only arrival of importance this week has been 608,000*l.* per P. and O. steamer Deccan; the bar gold (say about 130,000*l.*) was taken for export, and the sovereigns, 467,000*l.*, were paid into the Bank of England. There have been 150,000 sovereigns have been withdrawn for Lisbon. The Hereford from New Zealand brought 15,000*l.* in bars, also taken for abroad, there still being some demand.—SILVER: We have no arrivals to report since our last circular, and the market has been unusually bare of supply at present rates; this fact, coupled with some enquiry for the Continent, has caused a rise in price to 52⅝d. per oz. standard—our quotation this day. There is no demand whatever for the East, and no shipments per Poonah yesterday.

THE MINING SHARE SHARE continues dull, and there is no change or improvement to report since last week either in the way of business transactions or in quotations, which with very few exceptions are merely nominal.

TIN MINES show no improvement, nor is there any change in that metal. Wheal Basset, 5 to 6; at the meeting a call of 2*l.* per share was made. The accounts showed a loss of 992*l.* on four months' working, and the debt on the mine was 7050*l.* The agents reported that the mine was looking better now than when tin was at 90*l.* per ton, and they could pay their way well with tin at even 45*l.*, but they are only getting 36*l.* As it is they hope to pay the expenses within 150*l.* a quarter. Mr. Basset, the lord, has remitted the dues altogether during the present depression, and for so long as it lasts. This is as it should be, and offers a marked contrast to some great lords in a neighbouring county. Carn Brea, 39 to 41; Cook's Kitchen, 15s. to 20s.; Dolcoath, 27 to 29; Penstruthal, 5s. to 7s. 6d.; South Condurrow, 11¼ to 11⅜; South Crofty, 7 to 8; South Frances, 2¾ to 3; Tincroft, 9½ to 10½; West Frances, 2½ to 3; Wheal Agar, 3½ to 4; Wheal Grenville, 2½ to 3; Wheal Peevor, 6 to 6¼; West Godolphin, 1 to 1⅛.

COPPER MINES are without alteration. Mellanear, 3¼ to 3⅜; the directors have declared a dividend of 3s. per share. Devon Great Consols, 2½ to 3; at the new south lode, 190 east, there is an improvement, lode worth 5 tons of copper ore and 5 tons of mundic per fathom. Wheal Crebor, ½ to 1; at the meeting, particulars of which will be found in another column, no call was made. The accounts showed a loss of 103*l.* 10s. 1d. on four months' working, and a balance of assets over liabilities of 205*l.* 7s. 2d. The copper ores sold, 306 tons, realised 881*l.* 17s. 2d., and at the old price would have left a profit of 400*l.* on the four months instead of a loss of 103*l.* 10s. The mine looks promising, and will pay profits at a fair price for copper. The agent hopes to get from 140 to 150 tons in the next two months. It will be seen that the Duke of Bedford declines in any way to reduce or remit the royalty. Parys Mountain, 7s. 6d. to 8s. 6d.; the cross-cut in the 90 south looks very promising for ore. Morfa Du, 12s. 6d. to 15s.; Marke Valley, 15s. to 20s.; West Seton, 12 to 14. West Tolgus are weaker, at 57 to 59.

LEAD MINES are moderately dealt in, and it is thought lead will advance, as the imports are falling off, and several mines in the North are limiting their production. Our quotations of shares are for the most part nominal. Great Laxey, 17½ to 18¼; the directors have declared a dividend for the quarter of 6000*l.* (8s. per share). At Herodsfoot meeting the accounts showed a loss of 103*l.* on four months' working, and a balance of assets over liabilities of 54*l.* Van, 20 to 21. Roman Gravels, 7½ to 8; the bottom level north is worth 1 ton of lead per fm., and south 1 ton. The sampling for the month will be 180 tons of lead ore. Tankerville, 3½ to 3¾; in the cross-cut in the bottom of Watson's shaft feeders to the lode have already been met with, producing 1½ ton of lead per fathom. The 192 west is worth 2½ tons per fathom; this is a new bunch of ore, and considered of importance. Rookhope, 17s. to 19s.; the rise over the adit has laid open good ore ground, and driving has been commenced in ground worth 24 cwts. of lead per fathom, going west. The mine is now about returning 40 tons per month. Derwent, 30s. to 40s.; the 95, east of Jeffries', has improved, and may open out good stoping ground.

North Laxey, 3s. to 4s.; the lode in the 84 end is increasing in size and value, and worth 15 cwts. of lead per fathom. D'Eresby Mountain, 80 to 90; D'Eresby Consols, 10 to 11; Clementina, 1⅝ to 1⅞; Aberllyn, 10 to 11; Glenroy, 15s. to 17s. 6d.; Denbighshire, 1 to 1⅛; East Van, 3⅞ to 4¼; Glyn, 10s. to 15s.; Grogwinion, 3 to 3½; Leadhills, 3⅜ to 3⅝; Llanrwst, 2 to 2¼; Ladywell, ¾ to 1; Pandora, 14s. to 16s. Pateley Bridge, 15s. to 20s.; the Rake vein in the 30 east has further improved, worth 2 tons of lead per fathom. Nos. 1 and 2 stopes in back of same are also looking well, and worth 1½ ton per fathom. Tyn-y-Fron, 1⅜ to 1⅝; Van Consols, ⅜ to ⅝; West Chiverton, 8½ to 9½; Wye Valley, 1½ to 2; West Wye Valley, 2¼ to 3; West Pateley, 2 to 2¼; Temple, 5½ to 5¾; South Cwmystwith, 2 to 3; Caron, 2 to 2½; Hartington Moor, 2 to 2¼; Red Rock, 2 to 2½; Marston, 50 to 60.

FOREIGN MINES.—Cape Copper, 31 to 33; Colorado, 5¼ to 5½; Chontales, 7s. 6d. to 12s. 6d.; Don Pedro, 11s. to 13s.; Eberhardt and Aurora, 6¾ to 7¼; Flagstaff, 15s. to 20s.; Frontino and Bolivia, 1⅞ to 2¼; Javali, 7s. to 9s.; New Zealand Kapanga, 17s. 6d. to 22s. 6d.; Last Chance, 1⅛ to 1¼; New Quebrada, 1⅝ to 1¾; Port Phillip, 10s. to 12s. 6d.; Richmond, 12½ to 22¾; St. John del Rey, 285 to 295; Blue Tent, 3 to 3¼. Hultafall, 4 to 5; in confirmation of the telegram of last week the agent says: "We have good mineral before us, and the work of every shift shows an improvement in the solidity of the lode."

The Market for Mine Shares on the Stock Exchange has not shown any increased animation, although satisfaction is very generally expressed as to commercial prospects altogether, and several promoters are in readiness to take advantage of the coming activity, which all consider certain. In connection with the Richmond, circulars continue to be issued, but the general aspect of affairs of course remains unchanged. The Great Laxey Company has declared a dividend of 8s. per share, payable on July 24. Devon Great Consols are reported to be in better demand at 2¾ to 3. The month's sale of copper ore—665 tons—will take place next week. The 190 west has improved to 5 tons copper ore and 5 tons of mundic per fathom. Greater economy in every department should be pursued at these mines, and no persons, either young or old, employed unless their services be absolutely necessary. The agents should exert themselves to see that all miners and workpeople push on the various operations vigorously, and at the same time every endeavour should be used to make discoveries on the several known productive lodes.

The Debenture Bond and Mortgage Company are, as will be seen from the letter of the managing director—Mr. W. B. Harrison—in another column, entitled to apologies for the precise character of their enterprise having been to some extent misunderstood. They do not claim to have discovered the method of realising profit by raising money at 5 per cent. and investing it at 3½ per cent. Far from it. Their profits are to be derived from an altogether different source. What the company really intends to do is to enable needy speculators to purchase into lottery loans "upon credit." The purchases of the 3½ per cent. stock, Mr. Harrison explains, "are not made by the company as an investment of its funds, but solely . . . for account of other parties." He says we rightly observe that these municipal lottery bonds do not yield more than 3½ per cent. per annum interest. The public, then, are to purchase these securities through the medium of the company, who are willing to advance them the necessary funds, to use Mr. Harrison's own words, "at a minimum rate of 6 per cent. per annum." He states, moreover, that the principle of the system is "not new, but is simply an extended application to any approved security of the old

one adopted by land and building societies in their advances for terms of years for the purchase of approved securities." It follows, then, that all the Debenture Bond and Mortgage Company requires is a sufficient number of customers willing to borrow money at 6 per cent. per annum in order to invest it in securities yielding 3½ per cent. per annum. And the most marvellous feature in the matter is that Mr. Harrison is enabled to state that they have not sufficient funds to meet the demands of would be borrowers on those terms; he must certainly be congratulated upon his exceeding good fortune.

The Mineral Corporation of Great Britain has convened its statutory meeting for Thursday next, and it is understood that the executive will have a favourable account to render. It is stated in Paris that Baron Crevecoeur has succeeded in raising a fair proportion of the 2,000,000 frs. capital, and one of the company's *réclames* asserts that the corporation is very probably destined to become one of the most interesting institutions in the United Kingdom. The essentially original character of the company is explained to be that it is at once an industrial, a commercial, and a financial society. Nevertheless, its principal object is the working of mines, and especially of metalliferous mines. But it is not intended to confine operations to a single mine, but to work several mines or groups of mines which singly would offer uncertain chances, but which, taken together, offer on the contrary a certainty of results considered in England almost absolute. The extent of mining concessions is generally limited in the United Kingdom, and many setts favourably situated are unproductive because the metalliferous deposits, although belonging to a general system of great richness, cannot be followed and wrought upon throughout their entire extent. The Mineral Corporation proposes to remedy this by combining contiguous properties and working them collectively. The Corporation has adopted as its first venture the Hafna Silver Lead Mine, in the Llanrwst district, North Wales, to the north-east of Pandora and Conway Mines. It is considered that the mineral riches of this mine can be valued with almost the same certainty as if they were laid bare, and that the results can be predetermined with mathematical certainty. It is proposed to replace manual labour by the most approved machinery, worked by steam and compressed air. The Corporation is negociating for the adjoining setts of High Hafna and Brwyn Canadon, which would quadruple the value of Hafna proper. This importation of foreign capital cannot fail to be beneficial, and the French capitalists are, therefore, entitled to the best wishes of all.

Cape Copper, 31 to 33; the advices just to hand state that the returns for May were—from Ookiep 975 tons of 30 per cent. ore, and from Spectakel and Nababeep together about 30 tons of 30 per cent. ore. On July 3 the 500 tons sold by tender averaged 12s. 5½d. per unit, or about 925*l.* for the parcel. Another 500 tons will be sold on July 17.

The largest solid nugget yet taken out of a Black Hill Mine is reported to have been taken from the bottom of the 20 ft. shaft of the Consolidated American Flag Palmetto Mine, at Lead City. It is described as having scarcely a particle of quartz mixed with it, and as weighing 34¼ ozs. The property will, it is said, shortly be introduced upon the London market.

The Sutro Tunnel, one of the largest and most important mining works in the United States, may now be regarded as completed, and it is cordially to be hoped that Mr. Sutro and his friends will reap the reward to which their energy and perseverance so justly entitle them. The miners, who will certainly derive their full share of advantage from the great enterprise, have constantly shown a most disgraceful desire to deprive the Sutro Tunnel people of the rights secured to them by way of inducement for carrying out the work, and even at the present time this feeling is still exhibited, though, to their honour be it said the American law courts, as well as Congress have hitherto fairly supported Mr. Sutro. The royalty to be paid by the miners is exceedingly reasonable, and the facilities for the tunnel company enforcing their claims are so great both legally and morally that capitalists cannot be too strongly cautioned to avoid connecting themselves with any enterprise which seeks to evade payment, as unsuccessful litigation will be the inevitable result. A telegram from New York (July 9) says—"Communication between the Sutro Tunnel and the Comstock lode, the well-known silver vein, was established last night. A correspondent, referring to this district, writes "that the latest advices from the 'bonanza' Comstock Mines state that the daily yield of the Consolidated Virginia is 400 tons, and that there is no change whatever in either the quantity or quality of the ore extracted. One mill, the California, is being run on the ore taken from the mine. The daily yield of the California Mine is 400 tons, and everything in and about the mine is working well. The much-talked-of compromise between the leading mining companies of the Comstock and the Sutro Tunnel Company simply amounts to this—the tunnel is already completed to the Comstock lode, the header has been for some months past running through the easterly outskirts of the great vein until at length it has penetrated the regular ore-vein formation, with its attendant heat and difficulties of working. Mr. Sutro wishes it to be distinctly understood that no compromise has been arrived at, although some consider that an arrangement might possibly be brought about now that the belligerent compact of the mining companies is broken."

Richmond, 12¼ to 12¾; the usual telegram from the mine at Eureka states that the week's run was $65,000 from 1030 tons of ore. During the week the refinery produced doré bars to the value of $55 000. The manager reports that since his last there has been nothing of importance to report from the mine. The upper part of the stope in No. 4 chamber is not looking so well, but the western end looks very well; he refers to improvements in the No. 7 chamber, bottom of Lizette tunnel, in the rise in the back of No. 10, and in the 500 cross-cut. Exploration is being pushed on as fast as possible. The furnaces are still in good working order, but during the past week they have had several stoppages on account of minor repairs to machinery. Eberhardt and Aurora, 6¼ to 7¼; a telegram from the manager states that the tunnel has been driven in 3578 ft., and is at present in shale. The mine was looking much better, and 950 tons of ore were on the dumps. A remittance of 2000*l.* is asked for. The managers' reports (June 17) that the mine is quite as encouraging, and the rock in the tunnel face, although somewhat of a firmer texture, still excellent working ground.

Colorado United, 4¾ to 5¼; the telegram from the mine states that the June ore sales amount to $16,000. The eighth stope looks splendid, but the breast of the drift is poor. They will start the mill on Monday. The superintendent (June 21) writes that the property looks all through better than it ever did before. He details the various points of operation in a very encouraging manner, and adds that from the very bottom of the shaft he took out last night a piece of ore about 3 in. in width full of brittle silver and grey copper. He feels certain, from the dip of the small veins or feeders in the Tunnel level, 200 ft. east of the Terrible shaft, that they will all unite in depth, and that between their eighth and future ninth levels they will come into a large body of good ore. Mr. Slockett, the foreman of the mine, congratulated him that morning, and told him that the mine never looked so well as it did that day.

The Market for Hydraulic or Gold Washing Shares has remained steady. There has been an enquiry for Blue Tent at quotations. The water season has been thus far good, but is now beginning to show signs of failing, though it is not anticipated that any reduction of work will ensue for the present, as the quantity of water stored and now available is large. Blue Tent, 2¾ to 3; a telegram received during the week announces the clear-up for June as $17,200 from all claims. The water in the company's ditch was running low, and would have to be supplemented by bought water during the present month. Birdseye, ¼ to ½; a telegram received this week gives the gross returns for the June washing as $60,000. The agent has remitted $1000, being the month's profit.

Hulfafall, 4 to 5; the agent's report, received to-day, states that the lode in the 25 has been cut into, and a rich course of lead and blende opened up, and an improvement has taken place in the 15 driving towards Old Silver, and the works generally are opening up well. The new jiggers are in position, and will start next week, and the chat-mill or fine crusher in a fortnight.

Lead Mines have been without much change. Van, 21 to 23; there is no change reported from this mine this week. All operations are proceeding as usual. Grogwinion, 2¼ to 3; the accounts from the mine continue good, but shares are flat upon poor dividend prospects for the half-year just ended. The meeting is nearly due. Wye Valley, 1½ to 2. West Wye Valley, 2 to 2½; there is great scarcity of water owing to long continued dry weather, and the dressing of ore has had to be stopped. South Cwmystwith, 2 to 3; St. Harmon, 2½ to 3; Red Rock, 2 to 2½. Caron, 2 to 2½; all going on well at all points. Mawston, 50 to 60; lode still looking favourable.

Pan-y-Mwyn, 3½ to 4; the shares are reported to have been in demand, and scarce. "The manner in which the mine is opening out promises to revive the fame of the celebrated Mold district. The lodes are of extraordinary richness, and lead is found almost solid. About 100 tons of lead is now in the bin, and handsome monthly profits are being realised. It is understood that another dividend is about to be declared. The working expenses are only about 225*l.* a month."

Pateley Bridge, ¾ to 1; The Rake vein in the 30 east has further improved, now worth 2 tons of rich lead ore per fathom. Other points returning as usual. The new bellows having been fixed smelting has been resumed. West Pateley Bridge, 2 to 2½; there is nothing new to report from this mine. Hartington Moor, 2 to 2½; the first meeting was held on the mine on Thursday, and passed off satisfactorily, prospects being considered good.

Subjoined are the closing quotations:—

Assheton, ½ to 1; Carn Brea, 39 to 41; Devon Consols, 2½ to 3; Dolcoath, 27½ to 28½; East Caradon, ¾ to ½; East Lovell, ¾ to 1½; East Van, 3¾ to 4; Glenroy, ½ to ⅞; Great Laxey, 17½ to 18¼; Hingston Down, ½ to ¾; Leadhills, 3 to 3½; Marke Valley, ⅞ to ⅞; Pateley Bridge, ¾ to 1; Penstruthal, ¼ to ⅜; Roman Gravels, 8 to 8½; Rookhope, ¾ to 1; Tankerville, 3 to 3½; Tincroft, 8 to 10; Tyn-y-fron, 1⅞ to 1½; Van, 20 to 21; West Assheton, ½ to 1; West Basset, 4 to 5; West Chiverton, 8¼ to 9½; West Pateley, 2 to 2½; Wheal Grenville, 2 to 3; Almada and Tirito, 3-16ths to 5-16ths; Birdseye Creek, 5/8 to ⅞; Blue Tent, 2¾ to 3; Cape Copper, 31 to 32; Cedar Creek, 3-16ths to 5-16ths; Chontales, ⅜ to ⅝; Colorado United, 5 to 5½; Don Pedro, ½ to ⅝; Eberhardt and Aurora, 6¾ to 7; Exchequer, 1-16th to 3-16ths; Flagstaff, ¾ to 1; Frontino and Bolivia, 1⅞ to 2½; Hultafall, 4 to 5; I.X.L., 1-16th to 3-16ths; Javall, 5-16ths to 7-16ths; Kapanga, ¾ to 1; Last Chance, 1½ to 1¾; New Quebrada, 1⅝ to 1¾; Pestarena, 8s. to 8s.; Plumas Eureka, 2¾ to 2⅞; Port Phillip, ½ to ⅝; Richmond Consolidated, 12½ to 12¾; St. John del Rey, 285 to 295; Sierra Buttes, 1¾ to 2; South Aurora, 1/8 to ¼; Tecoma, 1-16th to 3 16ths; United Mexican, 3¼ to 3¾.

COLLIERIES.—Almost the entire attention of investors has been again during the past week been diverted from these shares by the condition of other markets, transactions in colliery securities having been confined to those of the best class alone. Holders of good colliery shares, however, still keep back from such a dull market, and wisely refrain from damaging prices and their own interests by forced sales, consequently prices remain unchanged, and it may be gathered from this that we shall not see lower quotations until, at all events, some good rise has first taken place. The state of the coal and iron trades is of itself sufficient to account for any want of activity in shares over which it must of necessity exercise so much influence. For a long time past "stagnation" was the only word which could adequately describe the condition of the coal market, and, though matters have now somewhat improved, collieries and their trade are still much depressed, and will welcome a more rapid development of the improvement which has been slowly setting in. Even steel, which has of late found a better and more elastic market, is not realising such prices as to satisfy the most moderate wishes of its producers; the iron trade is naturally no better, if not worse off. But, though prices keep low, there is no want of animation, South Wales alone during last week having exported some 10,000 tons of manufactured steel, while we hear from Sheffield that the Atlas Works have been busy in the boiler and ship plate departments, and have, after working short time for many a week past, commenced working full time. Fuel exports show a diminution from the previous week, which, by-the-bye, was an exceptional one, but about the normal increase over the week before.

South Wales, however, shows encouraging figures, the shipments outward to load in Cardiff being last week 128,991 tons, as compared with 96,969 tons for the previous week. The trade of South Wales, although it has been perhaps, on the whole, barely remunerative, has steadily grown for some weeks past, and shows every sign of further improvement, not only as regards bulk but in respect also of proportionate value. We continue to hear good news of the Ynisedwyn Company, whose agents continue to receive large enquiries for their coal. This property is an exceptionally valuable one, and the shareholders are to be congratulated upon having not only a fine property but excellent and energetic agents in Swansea, who evidently will leave no stone unturned to make the concern as great a success as possible. At the Alltami Colliery the manager has succeeded in carrying out a further reduction in the price for winning the coal. The trade, although rather dull during the past few days, seems likely to improve, so that the general prospects for the second half of the year may be considered satisfactory; the shares remain at 3½ to 4.

Chapel House Colliery shares continue firm at 3 to 3¼. The new engine is now completely finished, so that a very considerably increased raising of coal may now be looked for almost immediately. There is probably not another colliery in the county which has in all respects done better than this one, and when the full estimated output of 1000 tons per day is secured it will undoubtedly prove a most profitable investment to its shareholders. We are informed that the preference shares have been remarkably well subscribed for by the shareholders, who have thus evinced their confidence in the future prosperity of the colliery. Llay Hall shares are quoted 6 to 8. This company has succeeded in obtaining part of the London and North Western Railway coal contract for the Chester depôt. The output is being steadily increased. Cardiff and Swansea shares are at ⅝ to ⅞. New Sharlston, 3 to 4; Thorp's Gawber, 2¼ to 2¾; Newport Abercarn, 4 to 4¼.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains: Original Correspondence: The Sulphur and Copper Mines of Spain and Portugal, and the Extraction of Copper from Poor Copper Ore (Dr. A. Gurlt); Rossa Grande Gold Mining Company (C. W. Williams); Richmond Mining Company (J. Bayliss); Mining on the Pacific Coast—Profitable Results; Gold Mining; South Staffordshire Coal and Iron Trades; the Mining Interests—"Home and Abroad" (R. Tredinnick); the Debenture Bond and Mortgage Company (W. B. Harrison); Reminiscences—No. X.; Distinguished Cornishmen; Railway to Perranporth (R. Symons); Cornish Mining; Mine Meetings, and the Making of Calls. South de Eresby Mountain Mining Company (J. Smith); Wheal Agar, and its Management (T. Rickard); Park Valley Mine (R. J. Rutter)—The Paris International Exhibition—IX.—Grylls's Annual Mining Sheet—The Scotch Mining Share Market—Registration of New Companies—The Comstock Bonanzas (H. Sewell)—Dynamo Electric Machines—Hydraulic Limes and Cements—Patent Matters, &c.

COPPER TRADE AND COPPER MINES.—There appears to be a general feeling that we shall have ere long a considerable advance in the price of copper, which must greatly affect copper mines selling large quantities of copper ores. As will be seen, the demand for home consumption and export is on the increase, so that stocks are likely soon to show a considerable decrease.

VIRNEBERG.—The advices this week from the manager are of a most satisfactory character. The ends and stopes are producing a large quantity of copper ore, and much valuable ground is being opened up. A parcel of 2800 centners copper ore has been shipped for Swansea. A full report of the operations appear in the usual column.

TREATMENT OF HYDROCARBON OILS FOR THE MANUFACTURE OF GAS, &C.—Mr. GEORGE FREDERICK CORNELIUS, of Merton Abbey, Surrey, has patented some improvements in the treatment of hydrocarbon oils for the manufacture of gas, and of oil for lubricating and other purposes. The invention consists in improvements in the treatment of hydrocarbon oils for the manufacture therefrom of gas and oil, and by which he is enabled to use waste spirit, such as Canadian for example. According to this invention he takes petroleum spirit, which may be Canadian waste spirit, and adds thereto 2 per cent. more or less of nitric acid, and 20 per cent. more or less of rosin (which may be in powder); this mixture is then put into a suitable vessel, into which steam is injected, when the light oil or spirit will distil over, and in order to form the gas, a solid chemical, soluble in the said light oil or spirit is added, such as napthaline para, naphthaline, or camphine to the extent of about 5 per cent. more or less. Mr. Cornelius then adds about 5 per cent. of camphor to purify or sweeten the gas; cotton, wool, or other porous material is then saturated with the said light oil, and placed in a suitable closed vessel, and upon air being forced through the said vessel a highly illuminating or heating gas is formed. In order to make the gas travel he places at a convenient distance from the gasholder a charcoal or other fire round the pipe that conveys the gas from the holder so as to superheat the compound gas formed. Gas manufactured as above may be used either in combination with other gases or separately. The residue resulting from gas manufactured as above described is valuable as a lubricating oil, or it may be treated so as to render it valuable for other purposes where a superior oil is required. A modified mode of carrying out this invention is by making the oil the chief product and the gas a subsidiary or waste product.

EXTRACTION OF SILVER FROM COPPER PRECIPITATE.—Mr. A. G. PHILLIPS, of Canning-street, Liverpool, has patented some improvements in extracting silver from copper precipitate. This invention has for its object the extraction of silver from the copper precipitate produced in the process of extracting copper from cupreous ores by the wet method, and may also be applied to other copper products of similar composition. For this purpose the copper precipitate is mixed with common salt and an alkaline carbonate or other alkali, and the mixture is moistened with sufficient water to make a paste of the consistency of mortar by thoroughly mixing the whole in a mill or otherwise. The paste-like mixture is then dried on a hot plate or in a stove, and any lumps formed during the drying are broken down. The dried mixture is roasted in a reverberatory or muffle furnace, and constantly stirred until the whole of the copper has been converted into oxide, and the silver into chloride. The alkaline carbonate or other alkali added decomposes any volatile salts of copper which may be present, and to a great extent prevents the volatilisation of silver during the process of roasting. The chloride of silver is extracted from the roasted mixture by lixiviation with any suitable solvent, such as hot brine. The use of water in the mixing process causes a more intimate contact between the different ingredients and facilitates the desired chemical changes.

CLEANING TIN AND TERNE PLATES.—According to the invention of Mr. REES TAYLOR, of Llantrissant, two slabs of wood, iron, or other suitable material are employed, resting one on the other in a horizontal position, and he imparts to one or both an intermittent or continuous reciprocatory motion, so as to create a rubbing action between their contiguous and inner surfaces. This motion he imparts by crank, eccentric, or other suitable mechanical arrangement or appliance. The friction or pressure between the slabs or plates he also regulates as required by the weight of the upper one, or by counterweight spring, or other suitable means. He also lines the contiguous and inner surfaces of the slabs or plates with sheepskin, india rubber, or other suitable material. The said slabs or plates are of any convenient size and shape, and flat or curved on face. The plates to be cleaned are introduced between the slabs or plates, and are thereby subjected to the rubbing action of their inner surfaces, by which means the plates are cleaned. They are introduced either by hand or through between rollers; and to enable them to be more readily inserted he causes the said slabs or plates to open or separate at the proper moment, and then close upon the plates. This motion he effects by treadle or other suitable means at the moment of the slabs or plates opening or separating; he causes one of them to strike against an arranged part of a receptacle with a perforated bottom or side containing bran, sharps, pollard, or other cleaning material at present in use, by which means, or other suitable means, a required quantity of the cleaning material is sprinkled on the inner surface of the lower of the said slabs or plates, and on the upper surface of the plate or plates being introduced to be cleaned. This causes the cleaning to be certain and effective. Besides the cleaning materials at present in use he sometimes employs sawdust, ground or unground, with a slight mixture of powdered lime or chalk.

PREVENTING INCRUSTATION OF STEAM-BOILERS.—The invention of Messrs. De FROIDEVILLE and TAPONIER, of Paris, of an anti-calcareous composition for preventing incrustation in steam-boilers, consists in mixing the fecula of potatoes with water and caustic soda, which is to be added from time to time to the water in the boilers to be protected, or to be ameliorated when there are old incrustations. They do not confine themselves to the exact proportions, but in practice they have found these to answer: 15 per cent. of fecula of potatoes mingled and stirred up successively with 70 per cent. of water, which is then mixed with 15 per cent. of a saturated solution of caustic soda (corresponding to a strong lye of the soap boilers).

A petition has been presented to the High Court of Justice for the winding-up of the Diamond Fuel Company.

LEAD ORES.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
July 6	North Laxey	20	£11 11 6	Walker, Parker, and Co.
11	Talargoch :—			
	Maesyrewddu	75	£11 12 6	ditto
	Coetia Llys	35	11 5 6	Adam Eyton.
	East Pant Du	40	9 10 6	ditto
	Rhyd Alun	12	10 16 0	Walker, Parker, and Co.
	Ciwt Militia	20	9 3 6	Adam Eyton.
	Victor	10	9 12 6	Walker, Parker, and Co.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
July 10	Talargoch	60	£ 3 8 0	Bagillt Smelting Co.
—	ditto	60	3 8 6	Dillwyn and Co.
—	ditto	60	3 7 6	Richardson and Co.
—	ditto	60	3 8 6	Villiers Spelter Co.

BLACK TIN.

Date.	Mines.	Tons	c.	q.	lb.	Price per ton.	Amount.	Purchasers.
July 10	Wheal Coates	5	4	2	10	£36 5 0	£189 11 4	Daubuz.

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

MINING JOURNAL VOLUMES WANTED.—Any subscriber possessing duplicates of Vols. I., II., IV. (A.D. 1835, &c.), and willing to dispose of them, will oblige by sending particulars of price, condition, &c, to the Editor, *Mining Journal* Office, 26, Fleet street.

TREATMENT OF COPPER AND SILVER ORES.—The letter from Prof. A. Drouin (Paris, July 11) shall appear in next week's Journal.

WHEAL WHISPER.—In answer to your correspondent "G. W.," I have to inform you that the last general meeting of Wheal Whisper Mining Company (Limited) was held in August, 1877, and that the notices for the next general meeting will shortly be issued.—H. G. GUSH, Secretary: *Finsbury-circus, July* 11.

WEST GREAT WORK—"M. S. A." (Bourtriehill).—This mine is in course of liquidation.

GOLD MINING COMPANY OF YUBA.—Will you allow me to ask, through the medium of your valuable Journal, whether or not there are any directors, secretary, or other officer now connected with this company to whom an unfortunate shareholder might address a communication with any chance of a reply? There was an office in Finch-lane, City, where splendid specimens of ore from the mines were exhibited and the last general meeting was advertised to be held; but since then, as far as the shareholders in this part of world are aware, no information can be obtained. Has the concern been wound-up, or could it be so without the concurrence of shareholders, either ordinary or preference, of whom to a considerable extent I am—ONE: *Taunton, July* 10.

THE SUPPLEMENTARY SHEET.—We have received occasional complaints, and of late a good many, that the Journal delivered by country booksellers without the Supplement. Subscribers would oblige us by demanding that the paper should be handed to them complete, as every Journal is accompanied by the Supplement when it leaves our office, and the fault of omission must rest with the country bookseller or their London agent.

Received,—"H. C. J." (Toronto): The letter on the Pic Copper Company has not reached us—"H. S." (Western Australia): We shall always be glad of such information—"Nemo" Bristol)—"Inquirer" (Cedar Creek): The particulars are given in another column—"C. W. W." (Serra de Cocaes)—"A Shareholder" (Penstruthal): Write to Mr. Ashmead, 62, Cornhill, London; he will inform you if the rumours are correct—"A Shareholder" (West Wheal Jewell): We could not publish such details without the writer's name being appended—"X. Z."—"An Original Shareholder" (Richmond)—"J. D. S."—"H. V." (Leeds)—"Shareholder" (Wheal Basset)—"Constant Reader" (Dublin).

IMPORTANT NOTICE—REDUCTION OF POSTAGE ON THE "MINING JOURNAL."—In consequence of the new POSTAL CONVENTION, which came into operation on July 1, the postage of the *Mining Journal* to many countries will be reduced to one fourth. Henceforth the subscription will be 1*l*. 10s. 4d. per annum (39 frs.), postage included, for the following countries. The amount will, if desired, be collected at the subscriber's residence at the end of each year. The subscription continues until countermanded:—Austria, France, Belgium, Denmark (including Iceland and the Faroe Islands), Egypt, Germany, Gibraltar, Greece, Heligoland, Italy, Luxemburg, Netherlands, Norway, Portugal (including Madeira and the Azores), Roumania, Russia, Servia, Sweden, Switzerland, United States, Malta, Turkey, Morocco, Tunis, and the Canary Islands. Spain 1*l*. 19s. (50 frs.)

AMERICAN SUBSCRIBERS.—In reply to several enquiries, it may be stated that subscribers in the United States can be supplied with the *Mining Journal* post free, at the price of $8 50c. gold per annum, payable in advance, by remitting to Mr. D. Van Nostrand, publisher, and importer of scientific books, &c., Murray-street, New York; or, direct to our Office, 26 Fleet-street, E.C.

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JULY 13, 1878.

OUR EXPORTS.

The Board of Trade Returns for the month of June and for the six months ending June 30 show that there has been a slight falling off in our exports during the present half-year, as compared with the corresponding one of 1877, to the extent of 0·6 per cent., the respective totals being 24,660,400*l*. and 25,234,130*l*. From the ordinary reports received from time to time from the leading centres of the iron and steel industries one would have thought that those important branches of trade had suffered more than others, but the reverse has been the case. It is true that prices have come down, but then there is the agreeable fact that our exports have increased even to those countries like France, Belgium, and Germany, that we have been led to look upon as our most determined and successful competitors in most of the continental markets. This shows that our manufacturers are working very close, and for the smallest of profits, so as to keep their works in operation, and be in a position to take advantage of the "good time coming," which, it is to be hoped, is not far distant. During the present year Germany took fully one-fourth of all the pig sent abroad, the total being 418,780 tons, against 415,119 tons in the first six months of 1877, there having been only a difference of about 5d. per ton in the value between the two periods, and, of course, in favour of the latter. An increased business has been done of late with Russia, British India, and Germany in railway iron. Germany alone, it appears, only took 5743 tons in the first half of 1877, but in the same months of the present year that country is credited with no less than 25,168 tons. As might be expected, there has been a slight falling off in iron rails, but this has been more than counterbalanced by the increase in those of Bessemer; indeed, iron rails must be expected to nearly die out, excepting for lines where the traffic is light, seeing that the difference in the price between the two is so slight. Our exports of steel rails up to the end of June were 126,957 tons, of the average value of 7*l*. 16s. per ton, against 106,253 tons, valued at 8*l*. 12s. 6d., for the corresponding portion of last year. The value of iron rails is given by the last return as 6*l*. 4s. per ton, so that the Bessemer rail, that will last about three times as long, is by far the cheapest. Of the exports of Bessemer rails this year Australia took 20,720 tons, against 12,510 tons for the same term of last year. Cutlery and hardware look far better than we expected, the value of the exports for 1878 being 1,594,820*l*., against 1,559,969*l*. in the corresponding half of 1877. Australia has again been our best customer, being credited this year with 309,692*l*.; British India standing next with 124,377*l*., then comes the United States with 145,969*l*. and Germany with 89,161*l*.

These figures cannot be considered otherwise than satisfactory, showing as they do under one head an increase for the half year of 4·1 per cent. in value, and so contrary to what might have been expected. Of all metals exported during the present year unwrought copper takes the lead, the quantity having been 216,521 cwts., against 102,498 cwts. in the first half of 1877; an increase of more than 100 per cent. Of the total for the present year France took 108,612 cwts., against 43,668 cwts. in the previous year, whilst Germany and British India stand next. Like most other articles, however, it appears that whilst in 1877 the value of the unwrought copper was about 3*l*. 19s., this year so far it is only about 3*l*. 1s. 2s. per cwt. There was no material change with respect to wrought or manufactured copper, but there was a decrease with respect to mixed and yellow metal sheathing. In lead our exports up to the end of June were 18,552 tons, against 19,119 tons for the same month of last year. The largest quantity was sent to Hong Kong and China, Russia, and British India. Here, again, we note the marked decline in the price of pig and other lead, for whilst the declared value for the first half of 1877 was 22*l*. 5s., for the last half it is only 18*l*. 10s. per ton. A gradual but sure increase in the exports of coal from this country is what has been looked forward to, but it appears last month that we only sent away 1,366,942 tons, against 1,473,109 tons in the previous June. France and Germany are the principal defaulters, whilst it is evident that Malta is well stocked, for barely an average tonnage was sent there of late. The total for the half-year was 7,353,766 tons, and for the same period of 1877 it was 7,344 883 tons, whilst for 1876 it was 7,491,077 tons. The quantity sent during the first half-year of 1877 and 1878 was to Germany 890,418 tons and 744,414 tons; France, 1,483,926 tons and 1,536,873 tons; Russia, 512,701 tons and 627,089 tons; Italy, 556,965 tons and 553,613 tons; British India, 436,488 and 335,236 tons; and Malta, 175,247 tons and 231,637 tons. The falling off in the quantity taken by Germany during the present year to the extent of 156,000 tons may to a great extent be attributed to the efforts made by the colliery owners in that country to supplant their English brethren, and the encouragement that they receive from the state. It is also pretty evident that a great deal more coal is being raised in British India than formerly, otherwise with the extension of the railway system there an increased quantity of fuel rather than the reverse would have been required.

THE HAYDOCK COLLIERY EXPLOSION.

All the evidence of the persons connected directly with the Haydock Colliery who were able to throw any light whatever as to the state of the workings, immediately before and after the explosion, has been given, and all that now remains for the Coroner and jury to do is to hear the statements of mining experts, who may visit the mine shortly when the obstructions are removed, as to the probable cause of the sad occurrence which has led to the loss of nearly 200 lives. From what was stated by the viewer, manager, and other officials it is evident that every precaution was taken by them to ensure the safety of all the persons employed, whilst the seam being worked was not considered a fiery one, so that the only reason gunpowder was not used was in consequence of the coal being soft and coming down without much difficulty. The ventilation, by the ordinary furnace system, was all that could be desired, according to the officials, and of this there is very little room for doubt, whilst only locked safety-lamps were allowed in the working places. There were, however, a few glass lamps in the intake, but not in the return air-courses, as well as some in other parts of the mine to re-light those that might chance to go out. But it is to be presumed that these latter were far removed from the vicinity of the working places and goafs where gas was likely to gather even in comparatively small quantities. We are told, however, gas was occasionally seen in the pit at places near to the goaf, and was met with on the evening before the explosion by the night fireman, but not to an extent worth reporting in the ordinary way. But on the morning of the sad event everything appeared to be right, the ventilation ample, and no gas seen in any of the working places, whilst the certificated manager had been in the pit for two hours, and had only reached the surface when he saw by the dust and smoke proceeding from the shaft that something serious had taken place. Everything was as right apparently as it could be in the workings whilst the manager was there, yet immediately afterwards the explosion took place, notwithstanding the fact that every precaution had been taken to prevent an accident by gas coming in contact with a naked light. As we have explained on more than one occasion when referring to explosions of fire-damp, there are several ways in which gas may be ignited in a mine, dealing death and destruction in every direction. It may be caused by a damaged safety-lamp, a naked light, or common glass lamp, or by the striking of a match to light a pipe—a most reckless act, yet one that has been brought home to many miners—but in nearly all cases before the gas has been lighted that results in an explosion there must have been an accumulation of it that ought not to have been allowed to take place—unless, indeed, where there has been a sudden outburst from the floor, but such evidently did not take place at the Haydock Colliery. As to the probable cause, however, the evidence furnishes us with but little reliable information, for it is somewhat contradictory as to the state of the mine before the explosion, as well as of the discipline carried out. There are some statements, however, made by miners called as witnesses that in all probability will not be overlooked in the report that will be sent to the Home Secretary by Mr. MAULE, Q.C., who has been watching the proceedings on the part of the Government.

One of the witnesses, who has been connected with coal mines for 40 years, and had formerly worked in the Oaks Colliery, and had been in the outbreaks of gas there, gave it as his opinion that the explosion was due to a fall of coal, or an outbreak of gas, whilst there must have been a damaged gauze, or lamp top off, or some one had struck a match, for as he pithily remarked the gas could not ignite itself. The same witness also stated that on two or three occasions within the last 12 months he had smelled tobacco smoke in the "returns," and had given information to the underlooker, who had make an inspection of the mine, but had found no one smoking. There is no doubt that the man was right as to how the explosion must have occurred, for he enumerates the different ways by which gas could be ignited, but we are still as far off as to the actual cause as ever. That in some parts of the mine there was a great deal of gas was sworn to by a miner named WILSON, whose son was killed by the explosion. He said he worked at a pillar almost the highest in the mine, close to what is known as the great fault. On the Monday the place was full of gas, when he sent for one of the brattice men, who put up some old cloth, and drove the gas back into the old workings. Fortunately for this witness he was taken ill on the Friday morning and did not go to work, so he escaped the fate of his son. In answer to Mr. MAULE and others the witness said he worked in a place where he was afraid of his life, for he was always frightened about the gas, but he did not go out of the place in consequence, for had he done that he might have gone out every day, and he had a large family, and had to work if possible. Other witnesses who were called stated that they never smelled tobacco in the mine, but there was pretty general concurrence as to gas being in the working places. A miner named TYLER who, owing to illness, did not descend the mine on the fatal Friday said that on the previous day he saw gas in the cut through where he was working, and could find it by lowering his light, as the coal always gave off a little gas, and he became a little nervous when he saw more than usual, but the management did all they could, for they had good men to look after it. He had never known a man having had an accident to his lamp, either pricked or damaged, continue to work with it in that condition. Another witness, who was one of those who escaped from the higher mine, said that up to about 12 months ago he did not like it, for there was too much gas for him, for he saw it in his lamp as he carried it along, but he told the foremen, who put up brattice.

Taking the evidence of the men there can be no doubt but what the coal gave off a good deal of gas, but certainly not more than could have been overcome by the amount of air passing through the workings, but the men when they found considerable accumulations for some reason or other did not always make such known to the firemen, who under such circumstances ought not to have allowed a man to work in a place where the gas was found. But men that are used to meeting with gas take at times but little notice of it, and instead of calling in the aid of the official whose duty it is to look after it, often content themselves with wafting it out with their jackets. Firemen, too, do not always discharge their duties as they should do, for they become so familiar with gas that they frequently think but little of it, especially if the quantity is comparatively small. This appears to have been the case with one of those officials at the Haydock Colliery, for he stated in his evidence that he found some gas in the goaf near to Evans' and Clare's places, which he did not mention in his report book. This in itself was a contravention of the general rules of the Act of 1872, which requires that in all mines in which gas has been found within the preceding 12 months the places shall be inspected before the time of commencing work, and a true report of their condition made in a book to be kept at the mine for that special purpose. We have it, then, in evidence that there was a good deal of gas given off from time to time, and the only question is as to where the light came from that set it on fire. From want of any direct evidence on the point the probabilities favour the hypothesis that a defective lamp was the means by which the gas was ignited. This is the view also taken by Mr. EMBLETON, the president of the Midland Institute of Mining Engineers, and is the one that we believe will be adopted by mining engineers generally. It is far from easy to discover a defective lamp, as was shown by the experiments made last week in Barnsley, when several were tested by means of ordinary gas and fired although previously considered to be perfect. But at the same time it should not be overlooked that ordinary gas used for street and general lighting flashes at a much lower temperature than the light carburetted hydrogen. The former ignites far more quickly than does the gas given off by coal in our mines. Still great attention it is to be hoped will be paid to the testing of lamps before they are given out to the workmen, and the mode suggested by Mr. EMBLETON is at present, we believe, about the best known. We know that some lamps have shown a fatal facility and quickness in passing the flame through the gauze, and this is a danger that nothing should be left undone to avoid, otherwise the miner, so far from being armed against danger by having a safety-lamp in his hand, may be carrying an instrument capable of setting fire to the atmosphere in which he is about to work that would rapidly extend to the most distant parts of a mine.

OUR RAILWAY IRON ABROAD.

The exports of railway iron from the United Kingdom in June presented a little flatness, having only amounted to 51,198 tons, as compared with 63,970 tons in June, 1877, and 36,902 tons in June, 1876. For the six months ending June 30 this year the exports exhibit, however, some progress, having amounted in that period to 247,805 tons, while in the corresponding period of 1877 they did not exceed 228,480 tons, and in the corresponding period of 1876, 181,625 tons. The decline in the exports in June occurred almost entirely in the shipments to Russia and the North of Europe; a good many fluctuations took place, of course, in the shipments to other countries, but the general result did not exhibit any material variation. Russia took 13,195 tons of our railway iron in June, as compared with 16,505 tons in June, 1877; Spain 3607 tons, against 2627 tons; and Italy 5605 tons, against 1899 tons. It is rather singular, after the prolonged prostration of the American demand, that we should have sent 825 tons of our railway iron to the United States in June. The shipments to Brazil in June were 1816 tons, against 2758 tons in June, 1877. The weakness of South American credit continues to be reflected in the fact that Peru and Chili took only 291 tons of our railway iron in June this year, as compared with 666 tons in June, 1877. The colonial demand for our rails and accessories is still well sustained, the shipments to British America, British India, and Australasia in June comparing as follows with the corresponding shipments in June, 1877, and June, 1876:—

Colony.	1876.	1877.	1878.
British America .....Tons	3,664	8,312	6,851
British India	2,949	6,892	7,349
Australasia	1,429	9,791	5,214
Total	8,042	24,995	19,414

The Anglo-Indian demand would seem to be still expanding. The shipments to Canada and the Australias show some little declension, but it will be observed that they are still upon a very considerable scale; and in Australia, at any rate, there appears to be a fair prospect of a large demand for our rails for some time to come, notwithstanding the chance of an attempted competition upon Antipodean markets on the part of American ironmasters.

As has been already hinted, the general results indicated by the exports for the first half of 1878 were somewhat more satisfactory than those for June, 1877. Russia took only 26,191 tons of our railway iron in the six months ending June 30 this year, against 43,535 tons in the corresponding period of 1877; and Sweden and Norway, 19,012 tons, against 27,913 tons. On the other hand, the exports to Germany increased to 25,168 tons, against 5743 tons; those to Spain to 13,371 tons, against 11,472 tons; and those to Italy to 10,104 tons, against 5061 tons. The shipments to Brazil, Peru, and Chili declined in the first six months of this year to 12,497 tons, against 13,480 tons in the corresponding period of 1877. On the other hand, the colonial demand for our railway iron has been progressively improving during the last two years, as appears by the annexed comparative statement of the shipments to British America, British India, and Australia to June 30 this year and the corresponding halves of 1877 and 1876:—

Colony.	1876.	1877.	1878.
British America .....Tons	24,257	17,487	17,434
British India	23,458	40,651	59,115
Australasia	14,040	38,116	43,284
Total	61,755	96,254	119,833

It is true that upon the least valuable colonial market—Canada—our sales of railway iron do not appear to have made much progress this year. This is due partly to the extreme weakness of Canadian railway credit, and partly to the progress of American competition upon Canadian markets. If there is any market upon which American railway iron ought naturally to acquire a footing of some importance it must be Canada; but we fear that the condition of Canada is not just now calculated to give much encouragement to the work of Canadian railway development, and we can but recommend American as well as English ironmasters not to allow Canadian railway companies to have their rails until they have a reasonable prospect of being satisfactorily paid for them. The Indian and Australian demand for our railway *materiel* will be seen to have been highly encouraging this year.

MINERALOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—At the general meeting held at Victoria-street, Westminster, on July 5 (Mr. R. H. Scott, F.R.S., in the chair), the papers read and discussed were:—"On a New Manganesian Garnet," from several localities in Scotland, by Prof. M. F. Heddle, of St. Andrew's; on "Cotterite," a new variety of quartz from Ireland, by Prof. Harkness, of Cork; on "Youngite," and on the artificial production of psilomelane, by Mr. J. B. Hannay, of Owen's College, Manchester; on "Penwithite," a new hydrous manganesic silicate from West Cornwall, by Mr. J. H. Collins; "Notes on Cornish Minerals and Mineral Localities, by Mr. J. H. Collins. The annual meeting was fixed to be held at Dublin on Aug. 14.

MINERAL CORPORATION OF GREAT BRITAIN.—The leading feature of this undertaking, the capital for which has been raised in France for working mines in the Llanrwst district, North Wales, is explained to be that the operations are not to be limited to a single mine with its attendant uncertainty, but will embrace several mines or groups of mines. It is stated that in the United Kingdom the setts are usually very small, a difficulty which this company proposes to obviate by securing adjacent mines. They will commence operations at the Hafna Mine in the Llanrwst district, and will replace the present system of manual labour by the most approved machinery, by which means the cost of obtaining the mineral will be much reduced.

DYNAMITE EXPLOSIONS IN FURNESS.—Major Ford, Her Majesty's Inspector of Explosives, attended the adjourned inquest at Barrow-in-Furness on Tuesday on the bodies of Thomas Henry Pearce and Edward Hooper, who were killed in recent dynamite explosions in Garlside Iron Mines, Barrow. He (the Government Inspector) gave his opinion that the accidents might have been caused from nitroglycerine which had escaped from the charges of dynamite when put into water. He demonstrated the action of a dynamite cartridge when placed in a tumbler of water, and showed that if great care was not used the nitroglycerine would escape through the cracks in the limestone or other rock in which miners were working, and result in an explosion whenever heat was applied to it. He suggested that dynamite cartridges should be put in water-tight bags, and exploded in that way.

THE DEVONSHIRE SILKSTONE COAL COMPANY.—In the Court of Appeal, on Monday, the hearing was concluded of an appeal from order of Vice-Chancellor Malins, removing the liquidators of the company from their office on account of the part they had taken in disposing of the colliery and property of the company for an inadequate price of about 8000*l*. to a new company formed to work it, the charge against them being, in fact, that they had profited by a sale which they had made in fraud.—Their lordships held that no evidence of fraud had been shown, the persons whose conduct was impeached having, in fact, a larger interest as creditors than as shareholders in the property. The order of the Vice-Chancellor must according be reversed, and the liquidators reinstated.

LEAD MINING IN NORTH DEVON.—Within the last few weeks some important discoveries of silver-lead ore have been made in the Combmartin district, North Devon. The finds have been of a most encouraging description, and the ore has been pronounced to be of a very superior quality. What is now wanted in the district is plenty of capital, so that any enterprise may not be starved out for

as the turf has been turned, and before a fair chance has been given to the sett. With the revival of trade may follow an important rise in the price of lead. Then we may expect to find capital introduced into North Devon to work the lead deposits.

NOTES FROM SOUTH WALES.

[FROM OUR OWN CORRESPONDENT.]

The depression existing in the staple trades continues, and is spreading, or rather has spread, to other branches of industry. It is announced this week that, in consequence of bad times, the Maesy-cwmmer Chemical Works, belonging to Messrs. Chivers, of Carmarthen, have had to come to a standstill, at any rate for the present. The works is an old established one. The Briton Ferry Ironworks, belonging to Messrs. Townshend, Wood, and Co., have also been stopped, in consequence of a want of orders. The Iron Trade continues very depressed, and it is only with difficulty that even present low quotations are maintained. Work, too, seems not quite so plentiful. The demand for railway iron appears to exhibit a slight falling off. Clearances during the week have been rather small, being mainly shipped in small parcels. To New York a miscellaneous cargo has gone. Other shipments are to Bilbao and Trinidad. The enquiry for bars on foreign account is rather limited, but some two or three works have moderately good local requirements in hand. The steel trade is comparatively unaltered. The report of the Ebbw Vale Steel, Iron, and Coal Company stands out like a green oasis in the desert of unsatisfactory returns. For the year ending March 30 the working shows a profit, and accordingly it has not been found necessary to touch the reserve fund of 55,000*l.* odd set aside to meet an anticipated loss. Out of the profit the interest on debentures has been paid, and due provision has been made for depreciation of the property. A sum of 35,158*l.* has been expended upon new works, and about 14,000*l.* of this amount has been charged to revenue. The directors congratulate the shareholders on the fact that the paid-up capital has been reduced, but regret that the depression in the staple trades continues, and had been felt more severely last year than at any previous period.

The demand for tin-plates is reported as firmer, but prices remain very unsatisfactory. Within a radius of a few miles of Newport there are three tin-plate works at which sales by auction are announced of the plant, machinery, &c. The Vernon Tinworks, Briton Ferry, are entirely closed. A strike has commenced at the Pontypool Works.

Generally speaking, during the past few days, there has been a rather better demand for coal—mainly steam, of course—and shipments have been on rather a larger scale. During last month the Alexandra Docks, Newport, shipped 23,000 more tons of coal than has ever been cleared thence in a similar period. House coals are in rather better request, but neither for this commodity nor steam qualities can any improvement in prices be noted. The output is still quite equal to the enquiry existing. Patent fuel is still dull, but shipments are looking up a little.

Great satisfaction has been experienced at Newport in consequence of the passing through the Lords Committee of the Pontypridd, Caerphilly, and Newport Railway Bill. A clause giving the Alexandra (Newport) Dock Company power with regard to subscribing, working, or controlling the railway was struck out, and the rates are to be assimilated to those of the Taff Vale. The importance of the scheme to the town and port of Newport can scarcely be overestimated, for now it will be connected directly with the valuable coal district of the Rhondda Valley. An alternative route to Cardiff will also be afforded. A mutual exchange of running powers between the Rhymney and the new company was agreed on.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

July 11.—The iron and coal trades are devoid of improvement; indeed, traders that up to recently have been fairly active are now dull, and it is the opinion of many that the depression will be unrelieved in the quarter upon which business has now entered. There are now a fair number of enquiries in the market on home account, but merchants have very few contracts to place for export at any price.

Yesterday the first of the current Quarterly Meetings was held in Wolverhampton. The leading pig and finished iron firms declared prices unaltered, and the nominal quotations for pigs remained, as they have done for a whole twelvemonth, at 5*l.* for cold-blast all-mine, and 4*l.* for hot-blast ditto, and marked bars remained at the price fixed at the commencement of last September—8*l.* 10*s.*, with the customary 12*s.* 6*d.* on for Round Oak brands. Transactions in pigs, however, took place, as all through the quarter they have done, at within these rates—in some cases considerably within—for the qualities mentioned. Marked bars, too, were plentiful at 8*l.* A better tone pervaded the market than on any similar meeting for a year past. Coal was unchanged in price at 9*s.* for Earl Dudley's furnace sorts, the quotation fixed at the close of August last year.

The Quarterly Meeting in Birmingham to-day drew together a large attendance of leading pig makers, and the list finished iron houses confirmed the decision come to in Wolverhampton. No alteration in prices was made, here and there, however, individual pig firms were 5*s.* lower than last quarter. Barrow hematites were down 2*s.* 6*d.* upon recent quotations. The business done was small, though a better tone prevailed, and enquiries were fairly numerous.

There was but a limited display of objects in the hall. Of these one of the most generally interesting was a working model of King's patent detaching hook for the prevention of accidents by overwinding—an old invention, which has been largely adopted by colliery proprietors in all parts of the country, and which evidently suggested the idea of some later inventions of a kindred character. It consists of two plates fixed between a framework of two outer plates, so as to oscillate about a strong pin, which goes completely through both the pins and the framework, all of these four plates being for the greater part of their length of exactly the same width. When the hook is in operation, holding the cage, the grip is very firm indeed. In case of overwinding the hook passes through a ring on which two projections catch, loosening the grip, detaining the cage, and letting the rope go. Among the other points claimed for King's hook are the gradual nature of the motion, involving no sudden shock, the general simplicity of hook and ring, while his clutching points, owing to their vertical depth, are exceedingly strong, and that the rope, when detached, can be easily replaced on the hook. Samples and models were shown by Messrs. Cooper and Smith, of Morville-street, illustrative of their patent non-conducting composition for covering boilers and steam-pipes, and their soluble tannate of soda for removing incrustation in steam-boilers. Samples of the patent American "Standard" stretched leather belting, made from the heart only of pure oak tanned butts, with patent joints and patent metallic tipped laces, were shown by Messrs. Ketley, Clenday, and Co.; and the autographic and collographic printing processes for the multiplication of copies of circulars, drawings, &c., were shown in operation.

News of a very satisfactory character transpired at a meeting of the arbitrators under the South Staffordshire Mines Drainage Act on Saturday in Wolverhampton, when appeals were heard against a proposed rate for mines drainage purposes in the Kingswinford district. It was stated that arrangements are likely to be at once made for the drainage of that portion of the district known as Bromley Pound, now wholly submerged, and that the Commissioners hope soon to have matured a plan for the mines drainage of the rest of the Kingswinford district. The chief feature in the scheme will be the setting on to their full capacity of the leading pumps now only working in part, the properly connecting of them, and the stopping of the smaller ones.

Coal and iron public properties move exceedingly tardily on the local Stock Exchange, and prices show but little tendency to strengthen. Cannock and Huntington shares are quoted by holders at 9 dis., and the Spon Lane Colliery at 6½ dis. Sellers in the Sandwell Park Colliery firmly demand 4½ premium. In the Willingsworth Colliery 5½ dis. is offered by would be buyers; 10 dis. is the price of holders in the Pelsall Coal and Iron Company, but buyers stand at 14 dis. John Bagnall and Son's property is offered at 1 9-16ths. Buyers of the shares of the Chillington Iron Company quote 2 1-16ths, but holders 2 3-16ths.

In North Staffordshire the demand which is experienced by the colliery proprietors does not call for the keeping on of the pits more than half time; in many cases less than half time is being made. Prices are very low, and do not show any upward movement. Ironstone is stocked on the banks in large quantities, so small is the demand. The pig-iron trade is dull. The finished iron mills are not working more than half their capacity, and although there is a somewhat improved tone, yet prices are very unsatisfactory.

The explorations at the Burley Pit, Apedale, have now resulted in all the bodies of the entombed miners being recovered. All were so badly mutilated that they were hardly recognisable. For special reasons the inquest cannot be resumed just yet awhile, but no doubt the enquiry will be reopened as soon as possible.

REPORT FROM CORNWALL.

July 11.—Assuredly nothing could well be duller than the condition of mining affairs at the present moment. Everything seems as absolutely in *statu quo* as it is possible to be, and even the sensation of the week has not been able to galvanise affairs into the merest semblance of vitality. And yet quite apart from all other considerations there are very good grounds for believing that the extension of our authority, if not absolutely of our empire in the direction of Asia Minor, should act as a stimulus to our peculiar industries. Mr. Richard Taylor the other day at West Tolgus mentioned what an excellent outlet for our tin and copper Bulgaria supplied. Here are the workings of the custom of a score of Bulgarians, given only what we can so ill afford to give just now—a little time. One is tired of preaching patience, but even the longest lane must have a turning.

There are rumours that Wheal Owles is to be stopped because a meeting is to be called to make a call. But so far as we are yet aware there is really nothing in the condition of the mine to lead to suspension. The mine has been a good mine, and so far as we are aware is as good and promising as ever. Only the stocking policy has been unfortunate. It paid once, but the success has not been repeated, and if the adventurers were to decide upon largely reducing, if not absolutely clearing out, their stocks we should not be surprised. And yet we would hope; even now it seems as if the improvement must come ere long. The unfortunate thing about Wheal Owles is that it is in so few shares that the burden comes very heavily. It is almost the only mine left which adheres in this particular to the old-fashioned Cost-book System. But, on the other hand, there is some compensation in the knowledge that all holders are *bona fide* investors, and not mere jobbing speculators—men who really have an interest and a stake that is worth looking after.

As crumbs of comfort even in these dark times, we may mention that a 6*s.* or 7*s.* dividend is expected at Wheal Peevor next account, and that West Peevor is turning out well. Great hopes are also entertained of West Roskear, one of the most promising new ventures that has been heard of for a long while. Mellanear, too, has declared a dividend.

Undeterred by the risk of accident, and by the inevitable toil and discomfort for adventurers, ladies last Saturday went down Pedn-an-drea. They did not, it is true, reach the bottom, but they went down to the 68 fm. level ladder-way, and came up by the same none the worse, and not a little interested by what they had seen and undergone.

The annual excursion of the Mining Institute of Cornwall took place on Tuesday. The weather was not all that could be desired, nor was it very inclement, and the excursionists enjoyed themselves. Among the gentlemen present were the following:—Capts. William Teague, jun., Richard S. Davey, Harris, T. Angove, Bennetts, A. Gripey, and A. James. Messrs. Rich, Twite, John Hitchens, Cox, Provis, T. T. Whear, and T. Teague. The company first proceeded to Penzance, and then visited some mines in the St. Just district, the first being Wheal Owles, and after they had been shown over the mine by Capts. Boyns and Oates they went to North Levant, Levant, and Botallack. At each place they surveyed the surface operations, and at the latter mine were provided with a substantial dinner. The excursion was a very pleasant one, and the members of the institute expressed themselves as highly gratified with the little trip.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

July 11.—Quietness still prevails in nearly all branches of trade, and few are much worse off than those connected with mining operations. At a few of the lead mines the men are tolerably well off, although the wages paid to them are not very high, whilst of late years there has been a marked decline in the production of ore, and as a consequence of the number of hands employed. But it is quite probable that lead mining in Derbyshire will improve more than otherwise, more particularly should the value of lead materially increase. In other ore there does not appear to be anything like activity, seeing that the raising of ironstone in the county is not looked upon as profitable, so that a very large proportion of what is required for the furnaces is imported from Northamptonshire and Lincolnshire, where it is obtained close to the surface, so that the cost of raising it cannot be very heavy, seeing that the work is done by ordinary labourers. Coal mining is still very dull, and whilst a number of men are idle very many are not working more than three days a week. The weather is much against the consumption of house coal, and there has been a considerable falling off in the quantity sent to London from the leading collieries. Prices, too, are so very low that colliery owners state that business is being carried on at a loss. Under such circumstances many men have had notice of a reduction of wages, which it is evident they will have to submit to. Several pits, it may be said, have been entirely closed, at least for the present, as they could not be worked without incurring considerable loss. Ironmakers have been working much as usual, but they still have stocks in hand, although the prices are very low. Bessemer rails at Dronfield are being as actively produced as ever, but the mills engaged on ordinary iron ones have had a very quiet time of it.

The ordinary Sheffield branches have not at all improved of late, and short time is still the rule at many establishments. Orders from America for cutlery and other goods have declined, whilst there is rather more quietness with respect to the business doing with Australia and other of our own colonies that have for some time past been very good customers. Makers of cast-steel still complain of the dulness, whilst those engaged in the making of Bessemer rails appear as busy as ever. Some of the plate-mills are better off than they have been, but engineers and machinists are not fully employed. Stoves and grates are in fair request, but heavy castings at the leading foundries are quiet. Very little of late has transpired with respect to plates for armour-clads, but there is every reason to believe that the days of heavy ponderous iron-plates are numbered, and that steel will play the most important part as a covering for our vessels of war. In the South Yorkshire district the question of a reduction of miners' wages has been prominently brought forward, and so far the men have offered to make some concessions, but not to the extent required by the masters. At present the pits are working three to four days a week, but the price of coal is such that the owners say they are working at a loss. The Silkstone coal pits, like the others, are quiet, and the business doing with the Metropolis has not been so bad for several years past. In a great measure this is said to be the result of the charge for carriage made by the Great Northern Railway Company. It is now 8*s.* 3*d.* per ton, including City dues, which is certainly not an extravagant rate for a journey of about 170 miles, but it is higher than what is charged by the Midland from Derbyshire. The exports of steam coal from Grimsby are far below what they were this time last year, whilst small coal is difficult to sell.

The strike at the Dodworth Silkstone Colliery still continues, and is likely to do so, for the managing director has as many men as he requires, and is now independent of the Unionists. At the Rotherham Sessions a few days since, two Unionists were charged with assaulting one of the men employed at Dodworth Silkstone. One was committed to prison for twelve months and the other for nine months. In several of the largest collieries in West Yorkshire riddles are about to be introduced by the owners, a movement that is likely to be opposed by the men. The half-yearly reports of several of the limited colliery companies is looked forward to with a good deal of interest, as it is expected that they cannot be better off now than they were this time last year, when no dividends were declared, the balances being on the other side.

REPORT FROM THE FOREST OF DEAN.

July 11.—There is little of an encouraging nature respecting the trade of this district to notice. Things remain much as they were at the date of our last report. It is now, however, understood that the legal contention between the Bilson and Crump Meadow Company and the executors of the late Alfred Goold has been compromised, the executors to pay to the company 10,000*l.* in cash, and to surrender 10,000*l.* of debentures and 2500*l.* of shares. The compromise refers exclusively to the estate of the late Mr. A. Goold. A claim against Mr. T. Goold has yet to be arranged. Will—or can—the compromise be carried into effect, or is it a good arrangement on paper, to be only in part effected? The floating of that company could never be satisfactorily understood by many in this district. Still, as the purchasers had access to the books of the firm, relating to the business of the colliery, and the books were really sent to London for inspection and examination, the vendors appear to have acted in a business-like manner, and if the vendees did not properly appraise what was fairly before them, that was their own affair. As we intimated in our last that the Great Western Railway Company were about to let the finishing of the Whimsey and Michaeldean Road line, we have now to report that the contract has been taken. Although neither the terms of the contract nor the name of the contractor have reached us as yet (we were promised those items by this date), it is stated that the works are to be completed and the line opened by July 1 next. That, however, may not be strictly correct, but the Great Western Company has evidently an eye to being ready to start with the opening of the Severn bridge, or thereabouts. The Severn and Wye Company is now proceeding with the station, which will be near the old dam, and much more convenient for the people of Cinderford, Steam Mills, Nailbridge, &c. Prices remain much the same as at our last report, trade being remarkably dull, and the labour market exceedingly depressed, so that times are still very trying, especially among the working classes and the shopocracy.

TRADE OF THE TYNE AND WEAR.

July 10.—In the Coal Trade the demand for steam and gas is more active than any other branch. The demand for house, coking, and manufacturing coal continues extremely poor. As to the general state of the trade on these rivers, it is held that there is a slight revival, but it is not very marked, so far as we can discover, except in chemicals, in which an evident change is to be observed; this trade is very steady in tone, and the late improvement in prices is well maintained. The exports of iron have also been considerable, and as the make has been reduced, and stocks in stores are declining, the price of pig and other iron is very firm at present. The closing of collieries and ironworks still proceeds, and it is likely to do so unless some change takes place in the commercial prospect shortly. The Redheugh Colliery at the west end of Gateshead has been closed owing to the depressed state of trade for a few months. The men employed at the Tow Law Ironworks in Durham have received notice that their services will not be required after a certain date. Owing to the continued depression in North Durham, it is expected that a demand for a further reduction of 10 per cent. will be made shortly at most of the works.

A serious explosion of gas occurred in a coal mine at Craghead, on Saturday, and four men were seriously burned, but they are expected to recover. The men were engaged in sinking a little below the Hutton seam, and on firing a shot it appears that the gas was liberated, and subsequently this gas filled a large part of the workings in an upper seam, but as all lights were excluded further accident was averted.

The adjourned inquest touching the death of Joseph Davidson, which was caused by a sudden break away of water at one of the Hetton Collieries, has been held. It appears that deceased along with some others went to bore a hole into old workings which were expected to contain water, and on the withdrawal of the rods, which were expected to be still two yards from the old working and in order to put in a pipe to run the water off, it suddenly burst in upon them, which drowned Davidson, and the other two men had much difficulty in saving their lives. After retiring the jury returned a verdict to the effect that Joseph Davidson had been suffocated or drowned in the Blossom Pit through an eruption of water upon him, the water having been bored into by Thomas Smithson and others. They were further of opinion that sufficient caution had not been exercised in reference to the matter, either by the under-viewer, Mr. Hall, or the borer Smithson, both of whom they wished the coroner to reprimand for their conduct. The eighth annual demonstration of the Durham miners under the auspices of the Durham Miners' Association was held at Durham on Saturday. As compared with previous demonstrations there was a falling off in the number present, owing to the fact that the coal trade is very depressed, and that at the present moment no less than 60 collieries in the county of Durham are lying idle from this cause. The number present on this occasion was estimated at 40,000, representing about 200 collieries. There were about 100 banners unfurled, and something like the same number of bands were present. Able speeches were delivered by Mr. Burt, M.P., Mr. Crawford, Mr. Wilkinson, Mr. Macdonald, and others, and resolutions were adopted. It appears that the Union has contributed during the year the sum of 52,000*l.* towards the support of those out of employment. The speakers, of course, dwelt very strongly on the necessity of keeping up the organisation, and some of them advised the men to discourage as much as possible those men who had left the Union ranks. Many of the speakers took occasion to speak in high terms of the last Act for the Prevention of Accidents in Mines, but at the same time contended that the Act has not been fully carried out, and recommended more frequent inspections by the Inspectors, and also by the men themselves, as they have the power to do this. The annual picnic of the Northumberland Miners Mutual Confident Association has been held also, Mr. John Bryson, president of the Association, occupying the chair, and amongst those present on the platform were—Mr. T. Burt, M.P., Mr. J. Nixon, Mr. R. Young, &c. The speakers congratulated the men on the adherence of the majority of them under the present adverse circumstances to the principles of the Union, and advised all who had not joined the Permanent Relief Fund to do it at once. It appears that the resources of the Union has been used up, they having expended 15,000*l.* lately, mainly in the support of members thrown out of employment by the dull state of the trade. Mr. Burt regretted that the arbitration system had lately been discarded by the masters, and this caused the late protracted strike. He, however, advised the men in all cases to submit to reductions instead of striking when it was clearly shown that the necessity existed for such reduction.

The Quarterly Meeting, which was held at Middlesborough on Tuesday, was expected to draw together a larger company than usual, and initiate a better condition of trade. In these respects, however, there has been little realised. There were a few gentlemen noticed who were connected with the West Coast and other iron districts, but the general extent of the gathering did not much exceed that of an ordinary market. Business, too, showed no improvement whatever; in fact the market was duller than for some weeks past, as there was but a limited enquiry, and buyers showed an indifference about purchasing. The quotations are firm at—No. 1, 43*s.*; No. 3, 39*s.*; No. 4 forge, 38*s.*, less commission. The returns of makers' stocks have been presented since last meeting. There was a total make of all classes of iron of 164,319 tons—a decrease upon May, owing to June being one day less of 2284 tons. There were 94 furnaces in blast during the month, 17 of these being

engaged on other iron than Cleveland. The stock in makers' hands shows an increase of 4602 tons, but about 10,000 tons were taken out of the makers' stores, and altogether there was a net decrease of stocks to the extent of 7034 tons. This decrease would have been larger, but the shipments fell off during the month, chiefly in the coastwise delivery, though there was a slight decrease in the foreign shipments as well. The shipments for the present month have not begun so favourably as could be expected, as the Scotch deliveries from the Tees have been below those of the corresponding period of 1877. There is no reason, however, to expect a decline of shipments. The manufactured iron trade shows but little change. Up to the present time there is but a comparatively small demand, though work has not diminished, and confidence is expressed in an accession of orders. Prices show no change from last week's quotations. Of the articles exhibited in the hall of the Exchange there was nothing particularly striking. Messrs. Petchell and Co., of Middlesborough, showed sections of machinery, tools, &c. Messrs. Hamond and Co., of Middlesborough, exhited an interesting collection of foreign ores and fire-bricks, fire-clay, &c. A monster piece of coke, weighing 9 cwts., in shape like the branch of a large tree, was shown from Craig Scar. This was stated to be the largest piece of coke ever made in the county of Durham.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

July 11.—The report of the Ebbw Vale Steel, Iron, and Coal Company has just been issued for the year ending March 30, and is a most satisfactory one, considering the depression of the staple trades, the result of the year's working has been a profit, and consequently the directors are enabled to do without touching the reserve fund set aside by the shareholders' committee in 1876 to meet anticipated loss in working. The interest on debentures has also been paid out of the revenue. The directors also congratulate the shareholders on the fact that the Master of the Rolls has allowed the capital to be reduced. In conclusion they express regret that no improvement can be noted in either the coal or iron trades, and the depression had been more severe during the past year than at any previous period. The new works at the Alexandra Docks, Newport, are proceeding rapidly. The Graving Dock is expected to be opened early next month. Such are the facilities offered by this dock that its trade is steadily increasing. Last month 23,000 tons more of coal were shipped there than in any other similar period since the opening. In honour of the Newport and Pontypridd Bill passing, it is intended shortly to invite Lord Tredegar, Sir George Elliot, Bart., M.P., Mr. J. C. Parkinson, and Mr. McClean to a public banquet at Newport. These gentlemen are all directors of the Alexandra Dock Company, and were the chief promoters of the new railway, which will undoubtedly prove a safe investment for capital. In consequence of trade depression the old established Maes-y-Cwmmer Chemical Works belonging to Messrs. Chivers, of Carmarthen, have come to a stand. At the Pentre Police Court nine haulers employed at Cwmpark Colliery, have been fined 20s. and costs each for absenting themselves from work.

The sale of the plant, machinery, &c., in connection with the Caerleon Tinworks took place on Tuesday. Mr. James Graham was the auctioneer, and, there being a good attendance of buyers, a clearance was effected at fair prices. Amongst the chief sales were 25 tons of charcoal, at 1*l.* 1s. 3d. per ton; 2½ tons of block tin, at 59*l.* 5s. per ton; and hydraulic lifting-jack, to lift 40 tons, 16*l.* There was also a quantity of pig-iron sold. With regard to the stoppage of the works, which have been idle for eighteen months, there is no probability of their being re-started. At present there is considerable distress in the town.

The Iron Trade has shown no feature of an encouraging nature during the week, and the stoppage of the Briton Ferry Ironworks, belonging to Messrs. Townshend, Wood, and Co., is announced, owing to a lack of orders. These works up to the present have been carried on despite the bad times. Orders are complained of as being scarce, and in some instances it is said that it is with difficulty even the present low quotations can be maintained. The demand for railway iron has not improved, and it is apparent that some of the local establishments are not so well supplied with orders. As for bars there is little, comparatively speaking, doing on foreign account, but some few local requirements are being carried out. The steel trade is moderately brisk. An improvement may be noted in the copper ore trade of Swansea. Iron ore shipments have recently been on the increase. The condition of the Tin-Plate industry is by no means encouraging. Caerlean and Pontymister works, in Monmouthshire, have long been closed, and now the plant, &c., is to be sold. The same remark applies to the establishment of the Waterloo Iron and Tin-Plate Company at Rudry, near Machen. The Vernon Ironworks at Briton Ferry are closed, and a strike at Pontypool has occurred. The demand is reported as being a little firmer. A more settled tone, perhaps, pervades business in the Coal Trade. The output is up to the average, and is quite equal, if not above, the demand. There appears to be a rather better demand for steam qualities, and shipments during the last few days have increased; no change can be noted in prices. The same remark applies to house coals; the enquiry is dull, but still a little improved. Patent fuel clearances have been looking up a little. Freights generally still show a downward tendency.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

July 11.—It was from an examination of the ore brought out of the new shaft at South de Eresby Mine that I concluded Captain Bennett's report had been misprinted. My own impression is that it would be better for the permanent interests of mining in that district if the reports, as a whole, were less enthusiastic. It is pleasant to see some of the prospective Shropshire mines, as Ladywell and West Tankerville, looking up; and everybody will hail with satisfaction the gradual improvement of the ground as the deep level at the Parys Mine is reaching the cupriferous strata underneath the workings of the great opencast.

This is how the non-mining critics of Cardiganshire look at some of the great mining speculations of that county. Whether the writer is right or wrong time alone can show. The following extract is from "Periwinkle's" weekly contribution to the Cambrian News:—

> The Flats think they know a lead mine when they see it. The Sharps are sure they know a Flat when they see him. All Fools' Level! Ah! my friends, the Flats are anxious to make their fortune. Greed for gain is the passion. Twenty per cent.?—a hundred per cent. is the bait, and ruin is the climax. A hundred thousand pounds worth of ore has been taken out of All Fools' Level! since King Alfred burnt the cakes; but during the past hundred years, nothing. All Fools' Level is a splendid place for London jobbers, but a terrible place for the Flats.

Such is the disgrace that unprincipled jobbers bring on our honourable and difficult profession.

The colliery case of Penson against Clayton, the lessor of Bryn Mally Colliery, was finally decided last week in favour of the defendant. The lessor was entitled under certain conditions to a recoupment of the dead rent. It was decided by a jury at the Welshpool Assizes in 1876 that the defendant had fulfilled these conditions. This decision was reversed by Barons Cleasby and Pollock in the Exchequer division on Feb. 7, 1877. The defendant appealed, and the finding of the Welshpool jury has been confirmed in the Supreme Court. The question to be decided was whether a thin upper coal seam, out of which the defendant had brought coal to bank prior to July 1, 1866, was a workable and saleable seam. The finding of the jury and the decision of the Supreme Court decide that it is.

At the Wynnstay Colliery Evan Jones, a collier, with a wife and four children, was killed by a fall of roof last week. At the adjoining colliery of Plaskynaston the accumulation of coal in stock is very large. It is with extreme regret I have to record that an order was granted on Friday last for the winding-up of the Ruabon Coal Company, Mr. H. Dever, 4, Lothbury, being appointed provisional liquidator. This is one of the most important collieries in North Wales, and its shafts are the deepest in the Principality. It is a well equipped colliery, and has been placed hitherto on the most favourable terms with the railways. It is difficult to say why it has succumbed, but it may be suggested that its depth, a good deal of broken ground, and the necessity for much timber, taken along with the badness of the times, have contributed to this unhappy result. The consequence may be additional distress in the immediate district.

The men at the Pantdreiniog Slate Quarry, near Bethesda, who were out on strike, have wisely submitted. The old and successful slate quarry of Rhywbryfdir has lately reverted to its owner, Mr. Oakley. The old lessors retained the quay at Portmadoc, and this was put up for sale by auction last week, but as none of the trustees of the Tremadoc estate were present to promise to renew the lease, no bid was made.

The slate quarries in Carmarthenshire, to which I referred in a former report—the Pencelly and the Elwyn Valley, on the Whitlund and Cardigan Railway—are opening up very promisingly.

PRACTICAL MINING—PORPHYRY.

BY MELVILLE ATTWOOD, F.G.S.

The careless manner in which the miners of the Western States employ the term "porphyry" has led Mr. Melville Attwood to communicate a very interesting paper on Porphyry to the San Francisco Microscopical Society, the substance of which we give in the subjoined abstract. The generally accepted meaning, he says, of the term porphyry, without addition or qualification, denotes "quartz porphry," a plutonic rock, with a compact matrix or ground mass, consisting of quartz and felspar, with distinct crystals of both, having a specific gravity of from 2·5 to 2·6 and containing from 75 to 85 per cent. of silica. What rock the Comstock miners mean when they say porphyry it would be exceedingly difficult for anyone to tell. In reading over the published reports of the different superintendents, they appear to be continually meeting with it at all depths and to the east and west of the different bodies, also in the shape of "horse," or dead ground, mixed with the vein matter, and called "bird's eye porphyry." Now, in ninety-nine cases out of the hundred what they call porphyry does not in any one respect resemble that rock, lacking by 25 per cent. the required amount of silica and having no free quartz. A very slight examination by any one having only a rudimentary knowledge of geology would show that the term porphyry, so applied, is the most unappropriate that could be used to describe either the west or east country rock of the Virginia portion of the great Comstock Lode. The only way I can account for the use of that term is that they prefer it to saying "country rock."

The desirability that those conducting explorations and trials on the Comstock range should know and be able to distinguish the different rocks they meet with in their operations is pointed out, particularly as those rocks enclose some of the richest mines yet discovered in the world, and since the cost of those very explorations amounts annually to millions and millions of dollars. It may be urged that the geological maps of the exploration of the fortieth parallel contain most of the necessary information. I would recommend those who think so to examine the maps, or any of the cross sections of the workings on the Comstock, beautifully drawn, I believe the work of Mr. Stretch, but coloured by the officers of the survey, and they will find that the Mount Davidson diorite is coloured as syenite, and the black dyke, a dolerite, as andesite.

Most of the country rocks overlying the Comstock on the east are marked as propylite and andesite. The so called propylite and andesite are identical in chemical and mineralogical composition, and a slight inspection of the Sutro Tunnel and other drainage levels will show that petrologically they are the same; in fact, the only difference being that the former occurs in sheets and the latter in dykes. When the felspar in the so-called prophyte is very much kaolinised, the rock is sometimes termed by the miners bird's eye porphyry. Referring to a lengthened notice in Zirkel's Microscopical Petrography of what is called "augite andesite", Mr. Attwood says:—Now though I have taken a great deal of trouble, as yet I have not been able to procure a single specimen of that rock called andesite. A few months ago, a very good authority on such matters, Alphons Stubel, of Dresden, passed through this city on his way home from South America, where he had been collecting rocks for many years. Knowing that he had been at Chimborazo I thought it would be a good opportunity to get what I wanted; so when he called upon me I asked him as a favour to give me a specimen of andesite. He said that he was very sorry he could not comply with my request, that he really did not know any such rock.

That looseness in petrological nomenclature is the rule and not the exception Mr. Attwood is fully aware, and also that many geologists are found writing on totally different rocks under one and the same name; and, he continues, I do not think that any distinction between rocks is worth much unless it can be applied in the field. I have stated that the black dyke, a dolerite, but which from the fineness of its texture might be called ansmesite, was one of the most important rocks in connection with the Comstock mines, from the fact that it forms the west boundary to all the vast treasures of the Comstock, no ore worth mentioning ever having been found at the west side of it; therefore every miner conducting operations in that district ought to possess the necessary amount of knowledge to enable him to distinguish that rock. If you will look at No. 12 rock and section you will find it is fine-grained and apparently of so homogeneous a texture as not to admit of its constituent minerals being resolved by the naked eye. I have quite a collection of specimens which have been given to me, supposing them to be that rock.

In 1867, when engaged in the examination of the gold mines of North Wales, the well-known mining engineer, Mr. A Dean, gave me the rough tracing of the working plans of the St. David's Mine, Clogau, near Dolgelly, and which I have brought for your inspection. The geological features of that district are the Cambrian rocks, overlaid by the lower silurian. The St. David's vein is partly in the silurian slate beds, and sheets of greenstone (diabase) lying between the slates, and partly in the Cambrians. What I particularly wish to draw your attention to, however, is the transverse section, showing the gold bearing and non-gold bearing rocks of the Clogau mines, and the very important fact that only those portions of the veins were rich in gold, or productive where the walls were greenstone. Impressed with the truth of the discovery, on my return to California I devoted a large portion of my time to the examination of the enclosing and wall rocks of the gold and silver-bearing veins of this coast. On the formation of this Society, I availed myself of the aid of the microscope to carry on my investigations, but soon found out that to do so with anything like satisfactory results I must get a collection of well authenticated foreign types, to compare with, and guide me in the work. Through the kindness of the late Mr. David Forbes, of London, Dr. Hector, of New Zealand, and in this city of Mr. H. G. Hanks and Mr. Charles Schneider, I have now a collection of some 500 specimens of foreign types, from which, with the assistance of my son, I have cut between 1400 and 1500 sections—some of them are very roughly done. I found it necessary to have two or three from each specimen, some cut very thin and others rather thick, to show colour and for examination with the aid of the parabolic illuminator. My collection of rock sections from this coast is large; but the result of it all amounts to this—I found that every step I took I was travelling on a road that led me far away from what I wanted, which was, a method to make it easy for my fellow-miners to understand and distinguish the enclosing and wall rocks of the different lodes they were working—those rocks having so much to do with the productiveness of the lodes.

By the merest chance I have found out a simple way, which I think in a great measure will partly fill the gap so much needed. The different pieces of rock which I now present to the Society (this collection consists of 22 very valuable specimens) are roughly prepared after this method, and made so that an inspection of the outer surface, viewed as an opaque object with only the aid of a common hand magnifier, will give all the information ordinarily required by the miner, and in most cases he will find that he is able to distinguish the structure and composition of the commoner rocks, so that with the help of a small collection of foreign types, prepared after the same fashion, he can compare and identify those under examination. It will be necessary for them to read up a little on the subject, and to acquire a rudimentary knowledge of geology, which I think can be best done by a careful study of such works as "The Student's Manual of Geology," by J. Beete Jukes, 1857; "Text Book of Geology," by Dana; "A system of Mineralogy," by Dana; "A Treatise on Lithology," by Van Cotta, English edition by P. H. Lawrence; and "Determination of Rocks," by E. Jannettas, translated by Plympton.

The rock for examination may be prepared as follows: First wash the specimen clean, using a brush to get rid of any clay and dirt; then select the side or part you wish to examine, and grind it down on a piece of sandstone (a shoemaker's sharpening stone) until a perfectly flat surface is obtained. This will occupy but a few minutes, unless the rock is very hard. The surface should then be worked down still finer with a square emery file, using water, and after you have obtained a sufficient polish wash the rock again and then let it dry gradually, either on a stove, or, what is better still, a little brass table, with a spirit lamp, the same that is used for heating slides. When perfectly dry, heat it again to a point so that you can barely handle it; then polish the varnished side while hot with a moisture of one part of Canada balsam to three parts of alcohol, which must be warmed before applying it and laid on with a camel's hair brush. It will soon dry, and if left for a day or two will harden, so that you can handle it without injury.

The effect of this treatment is remarkable; particularly on the lavas, as you will see by the specimen of trachyte lava from Bodie, which I now present to the Society. In conclusion, it is with great hesitation that I have ventured to bring this matter before you, but I do so well knowing that more searching and exact methods of investigation are now demanded by those conducting large mining operations, and that such terms as porphyry, for any and all enclosing or wall rock that may be met with in such mines as the Comstock, and the term green chlorides, for the rich ore, will not be deemed a sufficient explanation, or tend to give the mine adventurers that confidence in the reports of their employees which they should be entitled to, particularly when it is known that the rock is not porphyry, and that the chloride of silver is one of the accidental minerals met with in the vein matter. I am in hopes that by thus breaking the ice others more capable in every respect than myself will be induced to communicate the results of their researches on the subject. All that can be claimed for the mode I have suggested to you for the examination of rocks is that it is a rude and simple way of determining some of the commoner ones, but the application of the miscroscope, even now quite in its infancy, is after all what we must trust to for exact or reliable results.

EFFECT OF COAL DUST IN COLLIERY EXPLOSIONS.

BY D. P. MORISON AND A. FREIRE-MARRECO.

The supposed effect of coal dust in aggravating the intensity of colliery explosions has recently attracted much attention in France and in this country, and Messrs. Morison and Freire-Marreco have now placed before the Derbyshire Institute the results obtained in some experiments on the subject. Mr. W. Galloway, in a paper read before the Royal Society, expressed the opinion that coal dust was explosive only in an atmosphere containing a minute proportion of fire-damp, and this induced the writers to extend the scope of the experiments, and endeavour to discover whether coal dust could by any means be exploded in an atmosphere totally free from fire-damp. The experiments were made with a box formed to represent an ordinary working place, which was divided by props and brattice. In the heading, and so as to command the chambers formed by the brattice, were two miniature cannons, representing in position and effect ordinary blown out shots. These were loaded with charges of gunpowder varying from 30 grains to 120 grains. The experiments appear to show that the explosive force is in proportion to the gunpowder used, and that fine coal dust in suspension in the air current is ignited, but not exploded. Two shots fired consecutively produce a greater effect than the explosion of similar shots simultaneously, though whether the ignition of the coal dust has anything to do with the increased intensity seems very doubtful.

The experiments made were 16 in number, and from them Messrs. Morison and Freire-Marreco conclude that with the double shot (one following the other before the coal-dust, disturbed by the first, has time to subside) the effects of the explosion are much more intense, and this would appear *a priori* probable, as the flame will evidently be more rapidly extended when the surrounding atmosphere is already densely charged with coal dust. Mr. Galloway has lately published (since the foregoing experiments were made) a translation of an epitome of experiments conducted by a committee of mining engineers in the North of France, and as these in places closely approximate in results to those of the writers, they quote them, but as they were so indecisive that no conclusions were drawn from them, it is unnecessary to reprint them. It seems probable, as indeed might be expected, that the ignition of the suspended coal dust would be objectionable in a foul gallery, from the tendency created to extend the area of the explosion. With reference to the results recorded by the French committee, it is remarked that from these, as well as from the experiments conducted by Mr. Galloway, on the effect of coal dust in an atmosphere containing an infinitesimal quantity of light carburetted hydrogen (fire-damp), the danger of shot firing in dry and dusty mines would seem most clearly established. The aggravation of an explosion and its extension in a dry seam also deserve attention. The writers invite the members of the Derbyshire Institute to furnish their practical knowledge of such of the heavier disasters by explosions as have come under their notice. So far as enquiry has yet gone it would appear to be almost invariably the case that such have occurred in dry and dusty mines, and that in mines where the coal dust is laid by damp or wet the explosions have been confined to the immediate neighbourhood of the primary cause.

ROCK-DRILLING AND AIR-COMPRESSING MACHINERY.

The results obtained at the Eberhardt and Aurora Company's mines with the Cranston rock-drilling and air-compressing machinery continue to be thoroughly satisfactory. The length of the tunnel run to the end of December, 1876, was 525 ft, the cost of which was $15,446, or $29·42 per linear foot. The total length of tunnel to the end of December, 1877, was 2464 ft., and the cost was $73,745, or $29·93 per linear foot. The cost of T rail track, extending the 2464 ft, besides the track running out to the waste dumps, and also the pipes for conveying air and water to drills, are all included in the amount mentioned. The tunnelling machinery and drills are altogether doing excellent work, and the manager considers with far less repairs than is usual on any machinery performing the same amount of service. The cost of the tunnel up to August had, the manager writes, "considerably exceeded my expectations. But until that time contract work was held too high to be of available advantage. That month, however, I succeeded in letting a contract to run 500 or 1000 ft. (with contingencies stipulated), at the rate of $21·63 per linear foot; the company to furnish only the use of machinery and drills, and also to furnish air and water pipes and water, and also the material for laying the tracks. A small portion of the expense of repairs on the machinery has since been assumed by the company. But the total cost to the company since the commencement of the contract work on August 27, as shown in my monthly reports, has not exceeded the original estimate to the company—$25 per linear foot. And the prospects are that our further driving can be kept within these figures. The first contractors struggled on with their work till the 11th inst., when they had completed 998 ft, and gave up the job as too hard for them at the price paid, the total length of the tunnel to that date being 22,663 ft. I have now succeeded in letting another contract for 500 or 1000 ft. to a new party, at the same price—21·63 per linear foot."

Since this they appear to have had still more difficult ground to deal with, yet the machinery has proved fully equal to the task, for on April 9 the manager again wrote—"Considering the terrible hardness of the rock during the month of March the progress made was indeed most creditable to the management, and energetic perseverance of the contractors having the work in hand. They did all that any set of men could do to make their work a success, but they, nevertheless, lost heavily. They pushed on, however, hoping and knowing, I may say, that such exceedingly hard, difficult rock must soon change to something softer. The ground during the past

week has broken considerably better, and the improvement is shown in the increased number of feet driven, they making 53 ft., as against 45 ft. and 43 ft. run in the two weeks previous. The rock at present is mainly in lime spar, but shows more stratification." It will be seen from these extracts that the drills have all the while been piercing through terribly hard rock, and have driven the same up to the present month over 3578 linear feet. Several more of these drills have recently been put to work by the well-known railway contractor, Mr. John Waddle, of Edinburgh, and the manufacturer has received testimonials stating that the drills are giving perfect satisfaction, and are drilling 50 ft. blast-holes per day in whinstone rock—that is, 50 ft. per day for each machine. More gratifying results than these could scarcely be desired.

THE "PEERLESS" PORTABLE ENGINE.

The designs introduced in the construction of portable engines have been so numerous, and the opinions as to what are and are not advantages, have differed so widely that it is probably unfair to say which has approached most nearly to perfection; but Messrs. F. and A. LANDIS, of Lancaster, Pennsylvania, have recently introduced an engine which they have named the Peerless, and which they say is emphatically the portable brought to perfection. Years of experience they say have revealed numerous defects in this class of machinery, and to remedy these faults, improve and perfect all the details, has cost much time, labour, and study, and they now claim to have produced a portable engine as effective and durable as the stationary in every respect. They consider that the defect in most portable engines results from the engines being so attached to the boiler as to give them a hot foundation, thereby causing all the bearings to get very hot, which is the great source of increased friction and wear on those parts. An engine when placed upon a brick foundation, as stationary engines are, does not have this difficulty to contend with. Hot bearings and journals in the portable engine are the only reasons why it is not used in most cases where the stationary is adopted, when the size and capacity of the engine will not exceed 24-horse power.

The heating by friction of bearing and journals is acknowledged to be evidence of defective working, and Messrs. Landis ask—how much greater must be the fault when in addition to this friction the bearings are placed upon a hot boiler. Some manufacturers have sought to remove this difficulty by placing the bearings at a greater distance from the boiler, but the metal being a good conductor of heat it has still proved to be a very great defect. Messrs. Landis's arrangement consists in making a water passage between the boiler and bearings, through which all the water used to feed the boiler while cold passes on from the tank or well to the pump, thereby keeping the bearings always cold, and making the Peerless portable as durable in every respect as the stationary engine. The Peerless is placed on one side of the boiler, with the fly-wheel on the opposite, far enough from the centre of the boiler to perfectly balance the whole machine when placed upon the trucks. In the Peerless they have the single crank, which enables them to use the long shaft, the same as used in all first-class stationary engines. The double crank was at one time thought to be advantageous, and was extensively used in the locomotive engine, but has been entirely abandoned for good and sufficient reasons. In the first place they could not be made to stand the working strain, owing to the power being applied to the centre of the shaft, which is the crank wrist; and it being away from the centre of the shaft, the length of the crank, much of its rigidity is destroyed, and any play whatever between the bearings and journals will cause the shaft to spring in the centre, but with a bearing close to the crank the play (if any) has no tendency to bend the shaft, as in the double crank, but only vibrate to the extent of play on the bearing.

Messrs. Landis explain that the saddle or bearings for the crank shaft are the kind used in first-class stationary engines, and are arranged to adjust from four sides—upper, lower, right, and left—with improved simple arrangement for adjusting (only found in the Peerless), by which the bearings can be adjusted by persons who are inexperienced in the use of machinery, and cannot be made too tight, therefore can never be ruined from this cause. The bearings are made very large, and will run a long time before any adjustment is necessary. The support between the boiler and these bearings is cast hollow, through which all the water (while cold) used to feed the boiler must pass on its way to the pump, absorbing the heat which would otherwise cause the bearings and journals to become very hot. This improvement covering the feature in which a water passage between the boiler and the crank shaft bearings for the purpose of keeping the journals and bearings cold, is claimed and secured by letters patent, and by this device they make a portable equal to a stationary engine. When the water is not required in the boiler, the flow is kept up by opening a valve and allowing the water to return to the tank from which it was taken, thus keeping the bearings cold all the time, and never allowing the pump to become dry, but always working and ready to supply the boiler with water when required.

APPARATUS FOR PURIFYING COAL GAS.—Mr. CARL PIEPER, of Dresden and Berlin, has patented some improvements in the apparatuses for the purification of coal gas (communicated from August Kloenne, of Dortmund). This invention relates to improvements in the arrangement of the scrubber and the purifier used in gasworks for the purification of coal gas, and the object of the same is to construct these apparatuses in such a manner that the solid materials which they contain may be extracted and replenished without interruption of the purifying process and without loss of gas, so that no change of apparatuses is required during the regular continuation of the working. The gravel, coke, or other material through which the gas passes in the scrubber, or the lime, oxide of iron, Lamming's compound, &c., used in the purifier, is placed on inclined grates or hurdles arranged one above the other. These hurdles are inclined alternately to the right and the left, so that the material lying on the same has a tendency to slide down, and their upper end is in close proximity to the corresponding wall of the apparatus, whilst the lower end (except the one at the bottom hurdle) is at some distance from the opposite wall. At the end of the lowest hurdle an inclined tube provided with a slide-valve is attached to the apparatus, for the purpose of discharging the spent material. Supposing the said valve to be closed, the material will bear against it, thereby being retained on the bottom hurdle. The substances at the end of the next hurdle partly rest on those at the top of the preceding one, and partly bear against the wall of the apparatus, and are consequently also prevented from slipping down whilst the slide-valve is closed. The same is the case with the layers on the other hurdles. As soon, however, as the slide-valve is opened the material at the bottom which is spent, or otherwise unfit for further use, slides out, whereupon a descent of the layers on all the hurdles takes place, one immediately after the other, until the valve is closed again. For the purpose of filling up fresh material a reservoir is provided at the upper part of the apparatus, having a funnel-shaped bottom, with a trap-door in the centre. This door is attached by a rod to a lever with counterbalance weight, so that the door will be closed automatically as soon as the reservoir is emptied. The cover of the latter may then be removed without material loss of gas for the purpose of filling the reservoir again. Instead of discharging materials at intervals as described, they may be extracted by creepers which have a continuous action, an escape of gas being in this case prevented by letting the discharge pipe dip into water. A similar arrangement may be applied for filling fresh material into the scrubber, as the feed opening for the gravel or coke may also be kept closed by hydraulic means.

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1500	Alderley Edge, c, Cheshire*	10 0 0	—		12 11 8	0 5 0	Jan. 1876
4000	Brookwood, c, Buckfastleigh	1 16 0	1	½ 1	3 16 0	0 2 0	Nov. 1875
2000	Bryn Alyn,* l, Denbigh	10 0 0	—		0 7 0	0 7 0	Jan. 1877
400	Cashwell, l, Cumberland*	2 10 0	2¼	1¾ 2¼	1 9 6	0 2 0	Aug. 1876
1000	Carn Brea, c, t, Illogan†§	36 7 6	41	39 41	308 0 0	1 0 0	Feb. 1874
2450	Cook's Kitchen, t, Illogan†§	24 4 9	1½	¾ 1	11 17 0	0 7 6	Jan. 1873
10240	Devon Gt. Consols, c, Tavistock†*	1 0 0	3	2¾ 3	116 15 0	0 5 0	July 1877
4296	Dolcoath, c, t, Camborne	10 14 10	31	27 29	112 11 3	0 5 0	June 1878
5000	East Black Craig,* l., Scotland	5 0 0	—		0 10 0	0 10 0	Feb. 1877
300	East Darren, l, Cardiganshire	32 0 0	—		235 10 0	1 0 0	Aug. 1876
6400	East Pool, t, c, Illogan	0 9 9	9½	9¼ 9½	15 9 3	0 2 6	May 1878
40000	Glasgow Cara., c* [30,000 £1 p., 10,000 15s. p.]		1⅜	1⅛ 1⅜	0 13 4	0 0 6	Feb. 1878
7500	Gorsedd and Merllyn Cons., l, Flint	2 10 0	4½	3½ 4½	0 5 0	0 5 0	Aug. 1877
15000	Great Dyliffe,* l, Montgom	4 0 0	3	2 3	0 2 6	0 2 6	Apr. 1876
15000	Great Laxey, l, Isle of Man*	4 0 0	18½	17½ 18½	23 19 0	0 8 0	July 1878
615	Gt. Retallack, l, bl, Perranzabuloe	5 18 6	—		0 1 6	0 1 6	May 1876
6400	Green Hurth, l, Durham*	0 6 0	1	¾ 1	1 18 0	0 3 0	Mar. 1878
20000	Grogwinion, l, Cardigan*	2 0 0	3½	2½ 3	0 14 0	0 2 0	Jan. 1878
9830	Gunnislake (Clitters'), t, c	5 5 0	2¾	2½ 2¾	0 13 9	0 1 0	Oct. 1876
60000	Holmbush, a, c, s-l, Callington*	1 0 0	1¾	1½ 1¾	0 4 6	0 0 6	Sept. 1877
3800	Isle of Man, l, Isle of Man*†	25 0 0	—		82 5 0	0 10 0	Feb. 1876
20000	Leadhills,* l, Lanarkshire	6 0 0	3⅝	3⅛ 3⅝	0 15 0	0 3 0	Mar. 1878
400	Lisburne, l, Cardiganshire	18 15 0	65	55 65	586 10 0	1 0 0	May 1878
14000	Llanidloes,* l, Montgomery	3 0 0	1¼	¾ 1¼	0 9 0	0 4 6	Nov. 1876
9000	Marke Valley, c, Linkinhorne	5 3 6	⅝	⅜ ⅝	7 15 0	0 2 0	Jan. 1876
10000	Mellanear Copper, Hayle*	2 0 0	3¾	3½ 3¾	0 5 0	0 3 0	July 1878
9000	Minera Mining Co., l, Wrexham*	5 0 0	14	13 14	67 13 2	0 2 6	May 1878
20000	Mining Co. of Ireland, cl, c, l*	7 0 0	—		23 17 6	0 2 6	Jan. 1878
444	North Busy, c, Chacewater	3 9 6	—		1 10 0	1 0 0	July 1877
10289	North Hendre, l, Wales	2 10 0	—		2 7 6	0 5 0	June 1878
30000	Panty Mwyn,* l Mold (8794 iss.)	2 0 0	4	3 4	0 1 0	0 1 0	Feb. 1878
6000	Pedn-an-drea Con., t, Redruth	0 8 6	—		0 9 0	0 9 0	June 1877
5000	Penhalls, t, St. Agnes	3 2 6	1	¾ 1	3 13 6	0 2 0	July 1875
6000	Pennant, l, bar, North Wales*	5 0 0	5	4 5	0 10 0	0 5 0	Mar. 1878
45793	Penstruthal,* t, c, Gwennap	2 0 0	⅜	¼ ⅜	0 2 8	0 0 8	Nov. 1875
18000	Prince Patrick,* s-l, Holywell	1 0 0	2¼	1¾ 2¼	0 14 0	0 1 3	Jan. 1876
10000	Red Rock,* l, Cardigan	2 0 0	2½	2 2½	0 4 0	0 2 0	Jan. 1878
12000	Roman Gravels, l, Salop*	7 10 0	8	7½ 8	7 15 0	0 5 0	Mar. 1878
512	South Caradon, c, St. Cleer	1 5 0	70	60 70	742 10 0	1 0 0	Mar. 1878
6123	South Condurrow, t, c, Camborne‡	6 5 6	11¾	11¼ 11¾	3 13 0	0 8 0	Apr. 1878
12000	St. Harmon,* l, Montgom	3 0 0	3	2½ 3	0 6 0	0 3 0	July 1877
10000	So. Pr. Patrick,* s-l. (8000 sh. issued)	1 0 0	—		0 7 0	0 1 0	Oct. 1875
12000	Tankerville, l, Salop*	6 0 0	3¼	3¼ 3½	4 17 0	0 5 0	Dec. 1876
6000	Tincroft, c, t, Pool, Illogan†	9 0 0	10	9½ 10½	50 8 6	0 5 0	May 1877
15000	Van, l, Llanidloes*	4 5 0	22	20 21	23 0 6	0 3 0	July 1878
3000	W. Chiverton, l, Perranzabuloe†	12 10 0	9	8½ 9½	55 10 0	0 10 0	Feb. 1878
1783	West Poldice, St. Day	10 0 0	—		1 19 0	0 4 0	July 1876
512	West Tolgus, c, Redruth	95 10 0	60	57 59	29 15 0	1 10 0	July 1878
2048	West Wheal Frances, t, Illogan	28 1 3	3	2½ 3	3 12 6	0 5 0	Oct. 1872
600	West Wheal Seton, c, Camborne†	47 0 0	15	12 14	446 0 0	0 15 0	Apr. 1878
12000	West WyeValley,* l, Montgom	3 0 0	3	2 2½	0 12 0	0 3 0	Nov. 1877
1024	Wh. Eliza Consols t, St. Austell	18 0 0	—		18 0 0	1 0 0	Apr. 1878
2048	Wheal Jane, t, Kea	2 13 10	1¼	1 1¼	8 5 0	0 5 0	July 1875
4295	Wheal Kitty, t, St. Agnes	5 4 6	2	1½ 2	11 19 6	0 2 6	Dec. 1874
25300	Wh. Newton, a, c, s, t, Calstock*	1 0 0	—		0 8 6	0 4 0	Sept. 1877
80	Wheal Owles, t, St. Just§	98 15 0	35	30 35	522 10 0	4 0 0	Aug. 1872
3000	Wheal Peevor, t, Redruth	7 11 0	6½	6 6½	0 5 0	0 5 0	Apr. 1878
6000	Wheal Prussia, t, Redruth	0 5 0	—	6½ 6¾	0 4 0	0 1 0	July 1877
10000	Wye Valley, l, Montgomery*	3 0 0	2	1½ 2	0 10 6	0 4 6	Oct. 1876

FOREIGN DIVIDEND MINES.

Shares	Mines	Paid	Last wk.	Clos. pr.	Total divs.	Per sh.	Last pd.
35500	Alamillos, l, Spain*†	2 0 0	1½	1 1½	1 19 3	0 1 0	April 1878
80000	Almada and Tirito Consol., s*†	1 0 0	½	¼ ½	0 6 3	0 1 0	May 1876
20000	Australian, c, South Australia†	7 7 6	2	1½ 2	0 19 6	0 1 6	July 1877
10000	Battle Mountain,* c, (6240 part pd.)	5 0 0	—		0 10 0	0 10 0	Nov. 1872
15000	Birdseye Creek, g, California*	4 0 0	1	⅝ ⅞	0 14 0	0 2 6	June 1874
20000	Cape Copper Mining,*† So. Africa	7 0 0	32	31 33	31 7 6	0 17 6	June 1878
34433	Cedar Creek, g, California*	5 0 0	⅜	⅛ ⅜	0 5 0	0 2 6	June 1873
35000	Cesena Sul. Co., Romanga, Italy*	10 0 0	—		0 10 6	0 3 0	Aug. 1877
15000	Chicago, s, Utah*	10 0 0	1	½ 1	2 8 0	0 4 0	Nov. 1876
65000	Colorado United, s l, Colorado*†	5 0 0	6½	4¾ 5¼	0 13 6	0 4 0	Jan. 1875
10000	Copiapo, c, Chili* (£20 shares)	16 15 0	—		7 11 5	0 3 0	May 1877
00000	Don Pedro North del Rey*†	0 16 0	⅝	½ ⅝	2 5 9	0 2 0	Mar. 1872
23500	Eberhardt & Aurora, s, Nevada*†	10 0 0	7¼	6¾ 7¼	1 8 0	0 3 0	Dec. 1877
70000	English & Australian, c† S. Aust.	2 10 0	1½	1⅜ 1⅝	2 15 9	0 1 0	Mar. 1877
30000	Flagstaff, s, Utah*	10 0 0	⅞	⅝ ⅞	4 2 0	0 5 0	July 1873
25000	Fortuna, l, Spain*†	2 0 0	5	4½ 5	6 19 10	0 5 0	April 1878
55000	Frontino & Bolivia, g, New Gran.*†	2 0 0	2¼	1¾ 2¼	0 1 0	0 1 0	June 1876
30000	Gold Run, hyd.	1 0 0	—		0 2 4	0 0 4	Oct. 1872
68000	Kapunda Mining Co. Australia†	1 3 0	—		0 2 4	0 0 6	June 1873
20000	Last Chance, s,* Utah	5 0 0	1½	1⅛ 1⅜	0 14 0	0 2 0	July 1873
15000	Linares, l, Spain*†	3 0 0	5	5 5½	17 7 10	0 5 0	April 1878
65000	London and California, g*†	2 0 0	⅝	⅜ ⅝	0 1 0	0 1 0	July 1875
7837	Lusitanian, Portugal*† (£5 sh.)	3 10 0	—		1 11 6	0 1 6	Mar. 1873
5000	Mamm Copperopolis of Utah, c, s	10 0 0	—		0 5 0	0 5 0	Dec. 1872
5000	Mountain Chief, s, Utah*	10 0 0	—		0 4 0	0 4 0	Jan. 1873
10000	Pontgibaud, s-l, France†	20 0 0	27	27 29	25 8 0	1 11 0	Nov. 1877
100000	Port Phillip, g, Clunes*†	1 0 0	⅝	½ ⅝	1 10 0	0 1 0	Jan. 1878
54000	Richmond Consols, s, Nevada*†	5 0 0	12½	12¼ 12¾	4 11 6	0 7 6	May 1878
40000	Santa Barbara,* g, Brazil	0 10 0	1¼	1 1¼	0 4 9	0 1 0	April 1878
120000	Scottish Australian Mining Co.*†	1 0 0	2	1¾ 2	15 per cent.		May 1878
80000	Scottish Austral. Mining Co., New	0 10 0	⅞	¾ ⅞	15 per cent.		May 1878
112500	Sierra Buttes, g, California*†	2 0 0	2⅛	1¾ 2	1 18 0	0 2 0	Oct. 1877
60000	South Aurora, s, Nevada*	5 0 0	⅜	⅛ ⅜	0 14 2	0 2 0	Nov. 1873
£253000	St. John del Rey*† (£5 stock & multiples dealt in)			285 295	½ year. 17½ p. ct. for June 1878		
20000	Tolima, g, s* So. America	5 0 0	—		0 11 6	0 6 6	May 1874
25000	Victoria (London)*, g, Australia	1 0 0	⅜	⅝ ⅜	0 12 6	0 0 7½	Jan. 1878
15000	Western Andes, s,* New Granada	5 0 0	—		0 12 0	0 12 0	July 1876
91000	W. Prussian (5500 pref. sh. 10l. pd)	10 0 0	11	10½ 11	1 2 0	0 4 0	July 1878

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
5000	Anguilla Phosphate, West Indies (4000 issued)	10 0 0	—		Fully pd.
12000	Argentine, g, Argentine Republic	5 0 0	¾	¼ ¾	Fully pd.
3000	Bellavista, s, Peru* (£10 shares)	10 0 0	—		Fully pd
80000	Blue Tent, hyd., California	5 0 0	3¼	2¾ 3	Fully pd.
49935	Chontales, g, s, Nicaragua*†	2 0 0	⅝	½ ⅝	Fully pd.
16000	Condes of Chili, s-l	5 0 0	1¼		Fully pd.
20000	English Australian, g, Victoria*	1 0 0	⅞	⅝ ⅞	Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	—		Dec. 1871
100000	Exchequer, g, s, California*†	1 0 0	2s.	1s. 2s.	Fully pd.
40000	Holcombe Valley, g,* California	1 0 0	—		Fully pd.
8000	Hornachos,* s-l, Spain	10 0 0	15	15 16	Fully pd.
12000	Hultafall,* l, bl, Orebro, Sweden	5 0	5	5	Fully pd.
12000	Hunter Consolidated, s-l, Utah	10 0 0	—		Fully pd.
20000	Imperial Brazilian Collieries, Brazil*	5 0 0	—		Fully pd.
00000	I. X. L., g, s, California*	1 0 0	—		Fully pd.
50000	Javali, g, Nicaragua*	2 0 0	9s.	7s. 9s.	Fully pd.
3500	La Manche, l, Newfoundland	10 0 0	—		Fully pd.
12000	Lanestosa,* l, z, Viscaya, Spain (£2 shares)	1 15 0	—		Mar. 1876
75000	Malabar, g, Colombia* (67165 issued)	1 0 0	¼	⅛ ¼	Fully pd.
40000	Malpaso, g, Colombia* (7400 pref. shares, fully paid)	1 0 0	⅜	¼ ⅜	Fully pd.
12000	Menzenberg, c, Honnef, Germany*	5 5 0	—		Fully pd.
4588	New Bensberg, i, l, Germany	5 0 0	—		Nov. 1876
66000	New Quebrada, c, Venezuela*	5 0 0	1⅞	1⅝ 1⅞	Fully pd.
20000	New Zealand Kapanga, g, Coromandel*	5 0 0	⅝	¾ 1	Fully pd.
3000	Oregon,* g, Oregon, U.S. (preference shares)	4 0 0	—		Fully pd.
50000	Panulcillo, c, Chili*† (£80000 debentures)	4 0 0	¾	⅝ ¾	Fully pd.
90000	Pestarena United, g, Italy*†	3 0 0	6s.	4s. 6s.	Fully pd.
50000	Providencia and New Rosario, s, Mexico*	1 0 0	—		Fully pd.
50000	Rica, g, Colombia* (40000 issued)	1 0 0	¼	⅛ ¼	Fully pd.
£2,181,000	Rio Tinto,* c, Huelva, Spain	Stock	65 xd	65 67	Fully pd.
100000	Rossa Grande, g, Brazil*† (£1 shares)	0 19 0	⅛	⅛	July 1872
30040	Russia Copper, Orenburg and Ufa*†	10 0 0	—		Fully pd.
25000	San Pedro, c, Chili*	2 0 0	—	¼ ⅜	Fully pd
10000	Silver Plume, s, Colorado*	1 0 0	—		Fully pd.
30000	Tecoma, s, Utah*	10 0 0	⅝	⅜ ⅝	Fully pd.
43174	United Mexican, s, Mexico*†‡	20 0 3	4	3½ 4	May 1878
14000	Utah, g, s-l, Utah*	5 0 0	—		Fully pd.
.0000	Virneberg, c Rheinbreitbach, Germany* (£2 shares)	1 15 0	—		Jan. 1878
15000	Yorke Peninsula, c, South Australia	1 0 0	½	¼ ½	Fully pd.
40000	Yorke Peninsula, c, South Australia Preference	1 0 0	1⅛	⅞ 1⅛	Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices	
Argentine, 1868 6 per cent.	74	75
Bolivia, 6 per cent.	28½	29½
Brazilian, 1865, 5 per cent.	93	95
Chilian, 1866, 7 per cent.	99	101 xd
City of Providence, 5 p.c. coupon bnds	100	102
Egyptian, Gov preference	72⅝	72⅞
Do., unified debt, scrip	55¼	55¾
Do., 7 per cent., V.M.L.	78	80
Do., per cent. guar.	82	84
Do., K. Daira Sanieh	52	53

	Closing Prices.	
Foreign and Col. Gov. Trust, 6 p. ct.	75	80
Do., 5 per cent., 2d issue	63	68
Do., 6 per cent., 3d issue	60	65
Do., 1872, 4th issue	60	65
Do., 1873, 5th issue	55	60
Peruvian, 1870, 6 per cent	15¼	15¾
Do., 1872, 5 per cent	13⅜	13½
Russian, 5½ per cent. L. Mort.	—	
Spanish, Quicksilver Mort., 5 p. ct.	97	99
United States Mort., 6 per cent.	97	99

NON-DIVIDEND MINES.

Shares.	Mines	Paid.	Last wk.	Clos. pr
40000	Aberdaunant, l, Llanidloes*	1 0 0	1⅛	¾ ⅞
2560	Aberllyn,* l, bl, Carnarvon	10 0 0	—	10 11
10000	Aberystwith,* s-l, Cardigan	5 0 0	—	
80	Albion, i, Cornwall	100 0 0	—	
7800	Alvig. & Burng.,* t, St. Aust.	3 0 0	1¾	1½ 1¾
12000	Assheton, l, Carnarvonshire*	5 0 0	1	¾ 1
50000	Ballycummisk,* c, Schull	2 0 0	—	
12000	Bedford Unit.,* c, Tavist. (1l. liab.)	0 1 0	¼	⅛ ¼
30000	Bettws y-Coed,* l (20,000 issued)	2 0 0	1	1 1⅛
800	Blaen Caelan,* l, Cardigan	3 0 0	4⅞	4⅝ 4⅞
3937	Blue Hills, t, c, St. Agnes	3 12 6	¾	½ ¾
30000	Bodidris,* l, bl, Denbighshire	1 0 0	1½	1¼ 1⅜
1000	Bollihope Vale,* s-l, Durham	5 0 0	—	
200	Botallack, t, c, St. Just‡	123 15 0	—	
2000	Bowden Hill,* mn	1 0 0	—	
6000	Bradwell Moss Rake	1 0 0	1	⅞ 1
256	Browngelly, c, St. Neot	2 0 0	2½	2⅛ 2⅜
50000	Cambrian,* s-l, c, Cardiganshire	2 0 0	3¾	3¼ 3⅜
3348	Cargoll, s-l, Newlyn‡	7 4 0	2¼	¾ ⅞
10000	Caron, l, Cardigan*	2 0 0	2½	2 2½
20000	Central Foxdale, l, I. of Man* (2l. sh.)	1 5 0	—	
10000	Central Van,* l, bl, Llanidloes	5 0 0	—	
5120	Clementina, l, Llanrwst*	1 0 0	1½	1⅜ 1⅝
7500	Combellack,* t, Wendron	2 0 0	—	
6000	Combmartin, s-l, North Devon	0 7 0	⅛	⅛
24000	Court Grange, s-l, Cardiganshire	1 0 0	1⅛	1 1⅛
20000	Cwm Dwyfor,* c, s-l, Carnarvonsh	1 0 0	—	
3000	Cwmystwith (New) [5l. shares]	4 0 0	—	
1680	D'Eresby Cons., l, bl, Carnarvon	10 0 0	11	10 11
512	D'Eresby Mountain, l, bl, Llanrwst	20 0 0	90	80 90
20000	Denbighshire Consolidated, l*	3 0 0	1½	1 1½
12000	Derwent,* l, Durham	4 0 0	2	1½ 2
10000	Dubby Syke, l, Durham*	0 15 0	7s.	5s. 7s.
6144	East Caradon, c, St. Cleer‡	2 19 0	½	¼ ½
4000	East Chiverton, l, Perranzabuloe	7 1 0	3	2½ 3
3000	East Craven Moor*, l, Pateley Bdge	10 0 0	10	9 10
6000	East Goginan, l, Cardigan	2 0 0	—	
18000	East Van, l, Llanidloes*	5 0 0	4¼	3¾ 4¼
1722	East Wh. Lovell, t, Helston	9 1 0	½	¼ ½
20000	Elgar,* s-l, Cardiganshire	1 0 0	⅝	⅜ ⅝
8000	Fronvellan, l, Mont.* [4000 sh. fy. pd.]	1 0 0	—	
3950	Gawton, c, Tavistock	4 5 6	⅜	⅛ ⅜
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	—	
14000	Glenroy,* s-l, Isle of Man	4 5 0	⅞	¾ ⅞
10000	Glyn,* l, Llanidloes	2 0 0	¾	½ ¾
12000	Goginan, & Level Newydd, Card., l	2 10 0	—	
100000	Gold, g, Merionethshire	1 0 0	—	
20000	Goreu,* s-l, Carmarthen	1 0 0	1	¾ 1
20000	Gt. E. Foxdale, l, I. of Man (1l. sh)	0 18 0	—	
12000	Great Holway,* l, Flintshire	5 0 0	5¼	5 5¼
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	—	
6000	Gt. Wheal Eleanor, t, North Bovey.	1 17 6	2	1¾ 2
6000	Great Wheal Rodd,* s-l, Cornwall	0 10 0	1	¾ 1
10000	Harehope Gill,* l, Durham (£1 sh.)	0 5 0	—	
600	Hartington Moor,* carb. l, Derby	1 0 0	2¼	2 2½
6400	Harwood,* l, Durham	0 15 0	5s.	4s. 5s.
1024	Herodsfoot, l, near Liskeard†	8 10 0	7	4 4½
18000	Hingston Down, c, Calstock*†	0 6 0	½	¼ ½
5000	Hush Eisteddfod Miners,* l	2 0 0	—	
200	Islay,* l, Scotland	28 0 0	—	
2500	Killaloe, sl, Tipperary‡	1 0 0	—	
6000	Killifreth, t, Chacewater	2 3 6	¾	⅝ ¾
25000	Kingston Con., s-l, Stoke Climsland.	1 0 0	—	
	Ditto, preference	1 0 0	1⅛	1 1⅛
12000	Ladywell,* l, Salop	2 10 0	1	¾ 1
12000	Ditto, 10 per cent. pref., 1l. each	0 10 0	⅝	½ ⅝
2500	Levant, c, t, St. Just	9 18 6	—	
6000	Livingstone Consols, t, St. Agnes	0 10 0	1	¾ 1
5120	Lovell, t, Wendron	0 16 0	2	1½ 2
25000	Llanrhaiadr, l, Montgomery*	2 0 0	—	
30000	Llanrwst,* l, Carnarvon	2 0 0	4½	4 4½
24	Mawston,* l, South Wales	50 0 0	60	50 60
6000	Medlyn Moor, t, Wendron	1 17 4	—	
11000	Melyndwr, l, Cardigan*	3 0 0	1¼	¾ 1¼
7000	Mid Devon Copper*	0 6 8	1⅛	1 1⅛
21000	Ditto	0 2 6	1	¾ 1
11000	Monydd Gorddu, l, Cardigan* (Red.)	5 0 0	2	1½ 2
12000	Morfa Du, z, g, s, Anglesea	0 12 6	¾	⅝ ¾
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	—	
15000	Nascent Copper*	1 0 0	—	
4768	New Bronfloyd,* l, Cardigan (5l. sh.)	3 16 0	4½	4⅜ 4½
8000	New Dolcoath, t, c, Camborne*	3 0 0	1¼	1⅛ 1¼
20000	New East Foxdale, s-l, Isle of Man.	0 15 0	—	
16000	New Fowey Consols, t, St. Blazey*.	3 0 0	2	1½ 2
1492	New Hendra, t, Breage	3 9 0	—	
3200	New South Merllyn, l, Flint*	2 10 0	1	½ 1
3500	New Tincroft,* t, Lelant	0 0	3	2½ 3
5000	New Wheal Emma, c, Buckfastleigh	2 0 0	—	
4000	North Cornwall,* l, Cornwall	5 0 0	5⅜	5⅛ 5⅜
30000	North Laxey,* Isle of Man	1 0 0	4s.	2s. 4s.
2000	North Levant, t, c, St. Just‡	12 8 0	1	¾ 1
20000	North Prince Patrick,* l, Holywell.	1 0 0	—	
5936	North Treskerby, c, St. Agnes	5 17 10	—	
2000	North Wheal Towan, t, c, Illogan	1 19 6	—	
6400	Oola Hills,* s-l, Limerick	5 0 0	—	
12000	Pandora,* l, Carnarvon	2 0 0	⅞	⅝ ¾
6000	Park Valley,* s-l, North Devon	0 4 0	1	¾ 1
6000	Parracombe, s l, Devon	0 5 0	⅝	½ ⅝
16923	Parys Mountain,* c, Anglesea	3 0 0	½	⅜ ½
12000	Phœnix, & W. Phœnix, t, c, Link.§	5 7 3	5	4½ 5
4000	Pateley Bridge, l, Yorkshire	5 0 0	¾	¾ 1
7000	Picton,* s-l, Holywell, fully paid	1 0 0	4	3 4
12000	Plynlimmon, l, Llanidloes*	2 0 0	6s.	4s. 6s.
10000	Port Nigel,* s-l, Carnarvonshire	2 0 0	½	¼ ½
2000	Prideaux Wood, t, Lanivery	5 0 0	—	
5182	Prince of Wales, c, Calstock‡	2 6 0	2s.	1s. 2s.
6000	Relistian Consols, c, Gwinear	0 10 0	⅝	½ ⅝
15000	Rookhope, l, Durham*	1 10 0	1	⅞ 1
5000	Silvercross,* c, t, Marazion	1 0 0	—	
4200	Snowbrook, s-l, Montgomery	5 0 0	—	
6000	So. Cwmystwith, l, Cardiganshire	2 0 0	3½	[illegible]
6000	South Darren, l, Cardigan*	1 10 0	2¼	2 2¼
30000	South de Eresby Mountain, l	1 0 0	1⅝	1⅜ 1⅝
512	South Dolcoath, c, t, Redruth	12 5 0	1⅛	1 1⅛
5000	So. Molton Cons., s-l, No. Devon	0 3 6	1	¾ 1
18000	South Roman Gravels, l*	1 10 0	⅝	½ ⅝
6000	South Roskear, t, c, Camborne	7 5 0	—	
6000	South Tolcarne, t, c, Camborne	2 11 6	¾	½ ¾
937	South Wheal Crofty, c, Illogan	40 0 10	8½	7 8
4500	South Wh. Frances, c, Illogan†	7 12 4	3¼	2¾ 3
6000	St. Lawrence, Amal., l, Flintshire*	2 0 0	—	
10000	St. Patrick, l, Halkin, Holywell*	1 0 0	1¼	1 1¼
6000	Success, &c., l, Derb. (12,000l. called)	1 0 0	—	
16000	Sunnyside,* l, Durham	2 0 0	2½	2 2½
30000	Talybont, s-l, Cardiganshire	1 0 0	1¼	1 1¼
6400	Teesdale,* l, Durham	1 0 0	½	⅜ ½
14000	Teign Valley, l, bar., Bridford	1 0 0	—	
10000	Temple, l, Cardigan*	1 0 0	5½	5¼ 5¾
10000	Tolgus Consols,* c, Redruth	5 0 0	4½	4 4½
5000	Treleigh Wood, t, Redruth	6 1 0	—	
12000	Trethellan, s-l, Crantock*	2 0 0	—	
640	Truro*, l, Nerquis, Flintshire	10 0 0	—	
10000	Tyn-y-Fron,* l, Cardigan	1 0 0	1½	1⅜ 1⅝
20000	Van Consols, l, Llanidloes*	2 10 0	½	⅜ ⅝
1000	Vaughan*, l., Cardiganshire	10 0 0	—	
12000	West Assheton, l, Carnarvon	1 0 0	1¾	1¼ 1¾
6000	West Basset, c, Illogan†‡	6 13 4	¾	½ ¾
5500	West Combmartin, s-l, North Devon	1 0 0	—	
7000	Ditto	0 2 6	—	
3000	W. Craven Moor, l, Pateley Bridge*.	10 0 0	10	9 10
5000	West Godolphin, t, c, Breage	2 16 0	1¼	1 1⅛
12000	West Goginan,* Cardiganshire	2 0 0	1¼	¾ 1¼
10000	West Llangynog, s-l, Montgomery	2 0 0	—	
3000	West Mary Ann, l, Menheniot	0 3 6	¼	⅛ ¼
50000	West Milwr, s-l, Flint	1 0 0	—	
5000	West of England Granite Company.	2 0 0	2	2
20000	West Pateley Bridge, l, Yorkshire	1 0 0	2½	2 2½
1000	West Roskear, t, s-l, bl, c, Camborne.	2 0 0	17	15 17
12000	West Tankerville,* l, Salop	3 0 0	⅝	½ ⅝
3000	Ditto, 15 per cent pref.	3 0 0	—	
3000	West Wheal Peevor, t, Redruth	0 10 0	6½	6 6½
6000	Wheal Agar, c, Illogan	12 0 0	4¼	3½ 4
512	Wheal Basset, c, Illogan‡	28 2 6	8	5 6
6000	Wheal Coates, t, St. Agnes	2 0 0	—	
2635	Wheal Comfort, c, Gwennap	1 5 0	—	
6000	Wheal Creeor, c, Tavistock	4 3 0	¾	½ 1
5179	Wheal Grenville, c, Camborne*	3 16 6	3½	3 3½
12000	Wn. Mary Hutchings,* t, Plympton‡	1 18 6	3⅜	2½ 3
13000	Wheal Russell, c, Tavistock	2 1 6	—	
4096	Wheal Uny, t, c, Redruth	14 0 6	1¼	1 1¼
2324	White Cliff,* l, Llanrwst	5 0 0	—	
25000	Wicklow, c, sul, s, Wicklow	2 10 0	—	

b, blende; cl, coal; c, copper; g, gold; l, lead; s, silver; sl, slate; s-l, silver-lead; t, tin; z, zinc.

* Limited Liability Companies: † quoted on the Stock Exchange; ‡ have paid dividends.

IRON AND COAL COMPANIES.

Shares.	Company.	Paid.	Prices	
£100	Abbot, John, and Co. [L.]	£75 0 0	17	16 dis.
15	Albion Steel and Wire Co. [L.]	14 0 0		—
5	Alltami Colliery Co. [L.]	5 0 0	3½	4
100	Ashbury Co. [L.]	90 0 0	55	45 dis.
10	Bagnall, John, and Sons [L.]	10 0 0	1	1½
10	Benhar Coal Co. [L.]	10 0 0	5¼	5¼
50	Bilbao Iron Ore Co. [L.]	50 0 0	27	28
10	Bilson & Crump Meadow Coll. Co. [L.]	10 0 0		—
4	Blaen Cwmbach Coal Co. [L.]	4 0 0		—
50	Blaenavon Iron and Steel Co. [L.]	50 0 0		—
100	Bolckow, Vaughan, and Co. [L.] A	50 0 0	4	6 pm.
50	Bowling Iron Co. [L.]	50 0 0		—
50	Britannia Ironworks [L.]	25 0 0		—
50	Brown, Bailey, and Dixon [L.]	40 0 0	10	9 dis.
100	Brown, John, and Co. [L.]	70 0 0	11½	11 dis.
5	Cakemore Colliery Co. [L.]	5 0 0	3	5
100	Cammell and Co. [L.]	80 0 0	9	8½ dis.
20	Cannock and Huntington Coal [L.]	10 0 0	9	8½ dis.
10	Cardiff & Swansea St. Coal Co. [L.]	9 0 0	¼	1¼
10	Cardigan Steel and Wire Co. [L.]	8 10 0		—
10	Central Swedish Iron and Steel [L.]	10 0 0	1	2
5	Chapel House Colliery	5 0 0	3	3¼
50	Charlton Iron Co. [L.]	50 0 0	8	10
50	Chatterley Iron Co. [L.]	45 0 0	35	31½ dis.
10	Chillington Iron Co. [L.]	10 0 0	2	2¼
10	Consett Iron Co. [L.]	7 10 0	10½	11 pm.
1	Consett Spanish Ore [L.]	1 0 0	¼	½ dis.
50	Cooke, William, and Co. [L.]	40 0 0	32	30 dis.
20	Darlington Iron Co. [L.]	12 10 0	½	¼
50	Davy Brothers [L.]	22 10 0	1	2 pm.
5	Diamond Fuel Co. [L.]	5 0 0		—
23	Ebbw Vale Co. [L.]	20 0 0	12	11 dis.
100	Fox, Samuel, and Co. [L.]	80 0 0	30	31
10	General Mining Ass. [L.] (£1 returned)	9 0 0	2	3
20	Great Western Coal Co. [L.]	17 0 0		—
2	Gwyngwillim Colliery Co. [L.]	2 0 0		—
15	Hopkins, Gilkes, and Co. [L.]	11 0 0	10	9 dis.
50	Knowles, Andrew, and Sons [L.]	17 0 0	3¼	3 dis.
10	Llay Hall Coal, Iron, & Firebrick [L.]	10 0 0	3	1 dis.
5	Littledean Woodside Coll. Co. [L.]	5 0 0		—
50	Llynvi, Ogmore, & Tondu Co. [L.]	50 0 0	5	5¼
10	Lydney and Wigpool Iron Ore [L.]	8 5 0	11	10 dis.
10	Marbella Iron Ore Co. [L.]	10 0 0	7½	7 dis.
6	Mersey Steel and Iron Co. [L.]	5 0 0		—
10	Midland Iron Co. [L.]	5 0 0	1½	1 dis.
5	Mold Argoed Colliery Co. [L.]	5 0 0	3	2¼ dis.
10	Monkland Iron and Coal Co. [L.]	10 0 0	7½	7
4	Mwyndy Iron Ore [L.]	3 10 0	2¼	dis.
100	Nant-y-Glo and Blaina (8 p.c. pref.)	100 0 0	17	20
3	Nerbudda Coal and Iron [L. & Red.]	2 0 0	1	1¼ pm.
20	New Sharlston Collieries [L.] Pref.	20 0 0	18	16 dis.
10	Newport Abercarn Coal Co. [L.]	10 0 0	4	4¼
10	Northmptn. Coal, Iron & Wagon [L.]	8 0 0		—
10	Northfield Iron Co. [L.]	8 10 0	¼	7¼ dis.
1	Norton Green Coal Co. [L.]	1 0 0		—
35	Palmer's Shipbuilding and Iron [L.]	25 0 0	15½	15 dis.
100	Parkgate Iron Co. [L.]	65 0 0	15	13 dis.
20	Patent Nut and Bolt Co. [L.]	14 0 0		7½ pm.
20	Patent Shaft and Axletree [L.]	10 0 0	1	¼ dis.
20	Pelsall Coal and Iron [L.]	15 0 0	12½	10 dis.
50	Phœnix Bessemer Co. [L.]	40 0 0		—
50	Rhymney Iron Co. [L.]	50 0 0	16	16½
10	Richards and Co. [L.]	10 0 0		—
10	Sandwell Park Colliery Co. [L.]	10 0 0	14¼	14¼
10	Ditto New	5 0 0	2	2¼ pm.
100	Shotts Iron Co. [L.]	100 0 0	90	93
100	Sheepbridge Iron and Coal [L.]	55 0 0	15	14 dis.
50	Silkstone & Dodworth Cl. & Iron [L.]	33 0 0	24	23 dis.
20	Skerne Ironworks [L.]	20 0 0	15	14½ dis.
50	Somorrostro Iron Co. [L.]	50 0 0		—
25	South Wales Coal Co. [L.]	21 0 0	6¼	7¼
100	Staveley Iron and Coal Co. [L.]	60 0 0	13	14 pm.
100	Ditto ditto New	10 0 0	2¾	3¼ pm.
10	Swansea Valley Steam Coll. Co. [L.]	6 0 0		
100	Thames Iron Company	100 0 0		—
50	Tredegar Iron and Coal Co. [L.]	20 0 0	11	11 dis.
25	Ditto B. shares	25 0 0	21	23
20	Ulverston Mining Co. [L.]	12 0 0	5	3 dis.
10	Vancouver Coal [L.]	6 0 0	1½	1¼ dis.
100	Vickers, Sons, & Co. [L.]	100 0 0	30	35 pm.
50	Welsh Ironworks Co. [L.]	50 0 0		—
25	W. Cumberland I. and Steel [L.]	20 0 0	12½	11 dis.
10	West Mostyn Coal [L.] (12 p.c. pref.)	5 0 0		—
5	West Swansea Colliery Co. [L.]	5 0 0		—
10	Whitehaven Iron Co. [L.]	10 0 0		—
100	Wigan and Whiston Coal Co. [L.]	70 0 0		—
100	Wigan Coal and Iron Co. [L.]	75 0 0		—

WAGON COMPANIES.

10	Birmingham Wagon Co. [L.]	10 0 0	17	17½
10	Ditto, 2nd issue	4 0 0	2	2½ pm.
10	Ditto, pref., 6 per cent.	10 0 0	11¾	12
20	British Wagon Co. [L.]	10 0 0	1¾	1½ pm.
10	Gloucester [L.]	10 0 0	8½	8¾
10	Ditto, 5th issue	5 0 0	1¼	1 dis.
10	Met. Rail. Car. and Wagon Co. [L.]	5 0 0	3	3½ pm.
5	Ditto, pref., 6 per cent.	5 0 0	5½	5½ xd
10	Midland	10 0 0	6¾	6½ pm.
20	North Central Wagon Co.	20 0 0	22	23
5	Rail. Car. [L.] (Oldbury)	5 0 0	5	5¼
5	Ditto, pref., 6 per cent.	5 0 0	5	5¼
20	Sheffield Wagon Co. [L.]	15 0 0	1¼	2 pm
10	Yorkshire Wagon Co. [L.]	10 0 0	3¼	4 pm

TELEGRAPH COMPANIES.

"St."	Anglo-American	100 0 0	63¼	63¾
10	Brazilian Submarine	10 0 0	6⅞	7⅛
20	Direct United States Cable	20 0 0	14½	14¾
10	Eastern	10 0 0	7¾	8
10	East. Exten., Australia and China	10 0 0	7⅜	7⅝
10	Great Northern	10 0 0	8½	8¾
25	Indo-European	25 0 0	19½	20½
10	Mediterranean Extension	10 0 0	2½	3
8	Reuters	8 0 0	10	11
Stk.	Submarine	100 0 0	221	[illegible]
10	West India and Panama	10 0 0	2⅜	2⅝
20	Western and Brazilian	20 0 0	4⅛	4⅝
$1000	Western Union, 7 per cent. Mort. Bonds	$1000	113	120

MISCELLANEOUS.

Stk.	Atlantic and Great Western Leased Lines, Rental Trust	100 0 0	45	51
25	Australian Agricultural	21 10 0	84	86
25	Austral. Mort. Land and Finance [L.]	5 0 0	6	6½ pm.
10	Avonside Engine [L.]	7 0 0	5	3
Stk.	Baltimore and Ohio, 6 per cent.	100 0 0	106	108
10	Brighton Aquarium [L.]	10 0 0	½	1½
Stk.	Cent. of New Jersey Con. Mort.	100 0 0	93	94
Stk.	Cent. Pacific of Calif., 1st Mort. 6 p.c.	100 0 0	107½	108½
25	City of London Real Property [L.]	12 0 0	1½	2½ pm.
8	Diamond Rock Boring	4 10 0	3	2½ dis.
15	English and Foreign Credit	8 0 0		—
16	Fore Street Warehouse [L.]	14 0 0	11½	12½ pm.
15	Foster, Porter, and Co. [L.]	10 10 0	22	21
5	Gen. Phos. & Chem. Works Co. [L.]	5 0 0		—
1	Greenhill [L.]	1 0 0		—
5	Kit Hill Tunnel [L.]	1 0 0		—
17	Hudson's Bay Company	17 0 0	10¼	11¼
10	Huntington Copper and Sul. Co.	9 0 0	8½	7½ dis.
Stk.	Illinois Central, $100 shares	100 0 0	87½	88½
Stk.	Illinois & St. Louis Bridge, 1st Mort.	100 0 0	80	85
Stk.	Ditto, 2nd Mort., 7 per cent.	100 0 0	32	37
Stk.	Illinois Cent. Sinking Fund, 5 p. cent.	100 0 0	100	102
Stk.	Ditto, 6 per cent.	100 0 0	109	111
7½	Imperial Credit [L.]	7 10 0	7½	7¾
—	Ditto, Surplus Certificate	—	6⅞	7⅛
Stk.	Lehigh Val. Con. Mort., A, 6. p. cent.	100 0 0	101	103
10	Milner's Safe [L.]	10 0 0	8½	9½
25	National Discount [L.]	5 0 0	10¼	11½
Stk.	N. Cent. Rail. Con. Mort., 6 per cent.	10 0 0	83	85
10	Pawson and Co. [L.]	8 0 0	¼	1¼ pm.
50	Peninsular and Oriental Steam	50 0 0	36	38
Stk.	Pennsyl. Gen. Mort. 6 p. cent., 1910.	100 0 0	107¼	108¼
Stk.	Ditto, Con. Sink. Fund, 6 p. ct., 1905	100 0 0	96	97
Stk.	Scottish Aust. Investment Company.	100 0 0	196	201
Stk.	Ditto, 6 per cent. Preference	100 0 0	122	127
10	Silber Light (ord. sh.)	10 0 0		—
20	Suez Canal shares	20 0 0		—
12	Telegraph Construc. & Mainte. [L.]	12 0 0	32½	33½
5	Ditto, Second Bonus Three per Cents	5 0 0	2¾	3
10	Tharsis Sulphur and Copper Co.	10 0 0	24	25
Stk.	Union Pacific Land Grant, 1st Mort.	100 0 0	109	111
Stk.	Union Pacific Railway, 1st Mort.	100 0 0	107	109

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